



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



Sultanate of Oman  
Diwan of Royal Court

July 2019 - Zu Al-Qada 1440

Environmental monthly newsletter issued by the National Field Research Centre for Environmental Conservation

Issue 44

# Conclusion of the first phase and graduation of participants of programme « A Volunteer In My Environment »



## Operation of Duqm integrated waste management facility

In cooperation with «The Duqm Integrated Waste Management Facility» the Duqm Economic Zone Authority became operational. It is one of the efforts made by the Oman Environmental Service Holding Company (Be'ah), one of the waste management sectors in the Sultanate of Oman. This is the second such integrated facility after Sohar. The waste received here is estimated to be around 300 tons per day.

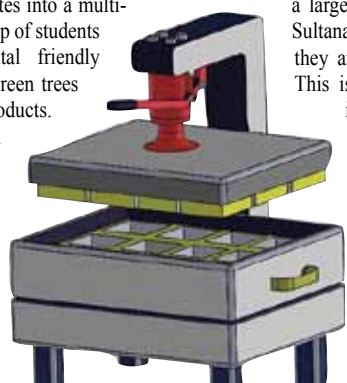
The Duqm Integrated Waste Management Facility is located at Duqm Special Economic Zone, 4 kilometers away from Duqm-Mahoot Road and 30 km from the port of Duqm. The facility has two parts for waste management.

Part one deals with the treatment, storage and disposal of municipal solid waste, construction, and demolition waste, electronic and tires waste as well as other general wastes. It has a special cell dedicated to the disposal of municipal waste. The second part of the facility deals with the treatment, storage, and disposal of industrial waste, which also includes a dedicated cell for disposal of industrial waste. The total area of the landfill is about 4,332,727 square meters. The area of the first phase of the engineered landfill of waste is meant for municipal waste. It has about 83,300 square meters area with a total capacity of 750,000 cubic meters.

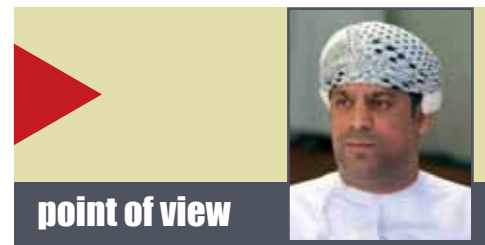


## Sohar CAS students make the machine to convert agricultural waste into environment-friendly charcoal

In order to conserve environment through innovations, Mechanical Engineering students, Hassan bin Ali Al Shukaili, Mazin bin Hamoud Al Hashmi, Saud bin Badr Al Amri and Hamad bin Abdullah Al Jamoudi, all from the College of Applied Sciences (CAS), Sohar, made a machine which can convert environmental wastes into a multi-purpose charcoal. The idea of this group of students focused on producing environmental friendly charcoal which is 100% clean from green trees and trees bioproducts to wealthy products. About the machine, Mazin Al Hashmi said: «We manufactured this machine which is comprised of two main parts; one of them is used as waste burning and grinding cylinder and the other part produce «coal briquettes». They both can work manually by hand without the use of electricity or any other source of energy. Al Hassan Al Shukaili said: «As mechanical



engineering students, we designed and manufactured these machines by using high-quality and inexpensive materials». We aspire to develop this project and make it available in the local and international markets. About the idea of the project, Saud Al Amri said: «We have a large number of agricultural residues in the Sultanate of Oman which is of no use, but when they are burnt will pollute the environment». This is why we successfully converted them into charcoal which can be used in our daily life. On the future of this project, Hamad Al Jamoudi said: «We are trying to develop a new plan and use it as renewable energy by putting solar cells to operate machines without any human intervention.» This work got the Best Graduate Project prize in CAS Sohar's Department of Mechanical Engineering.



point of view

## Environmental volunteering

Dr. Dawood Sulaiman Al Balushi  
Editor-in-Chief

Life is beautiful when there is unlimited social involvement and volunteerism. It is prettier when this involvement comes from every individual to serve his or her country without seeking any return. There are many types of volunteerism in which an individual is the source and centre of social work. An individual devotes his or her time, efforts, money, expertise and skills for the work with devotion and steadfastness. All this they do believe that it would bring beautiful results for the people of the society and the country will progress.

Environmentalism or environmental volunteerism is one of the most important social works due to its noble objectives. This is one of the pillars of sustainable development in any society. Thus the primary responsibility of conservation of ecosystem is on human being. This is an essential part of the system of daily life as it has a direct effect on human beings and their vital surroundings in which they live.

The experience of the national program «A Volunteer In My Environment» adopted by the National Field Research Centre for Environmental Conservation (NFRCEC) of the Diwan of Royal Court, in cooperation and partnership with higher education institutions of the Sultanate, made us feel proud. This is due to the love of students and passion for their environment. Students found that facing the challenge and steadfastness is their motto. Their love for their country and environment is their prime objective. They are making efforts with all their strengths and skills to deliver an environmental message to all segments of the society and trying to develop a curriculum of environmental education to create a generation of aware young people who love their country and its environment.

I thank the higher education students of the institutions for participating in this national program of volunteerism and environmental awareness. We assure that the program will continue in the next phase and in a new format. Various technologies will also be used to create environmental awareness in the Sultanate. Environmental volunteerism or activism has no limits in the service of the nation. It begins from the individuals themselves and leads to achieving the noblest objectives of the society.

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# Sidr Tree

**Written by: Fatima Al Zadjaliyah**

Sidr is a tree of 'Ziziphus' family of plants.

It is a dense leafy tree and is spread with a trunk which has light coloured twigs, one of which is straight and the other curved. It is about two to four meters high. Its oval leaves are small white and green. It has fruits which look like cherry. When matured it become black with 3 - 4 seeds.

Sidr trees have deep roots to withstand harsh environmental conditions. The Sidr trees grow in hot and moderate weather on all types of soil. The farming of Sidr is better in the sand and yellow lands which shows that it tolerates drought.

### The propagation of Sidr

Sidr trees multiply with the planting of branches during winter and from the seeds collected during summer. This is because the seeds collected during winter do not grow. The

rate of growth of seeds is low at around 30%. The seeds are soaked in water before planting.

### Importance of Sidr trees

The fruits of Sidr are eaten because they are sweet in taste and have high food value. They are considered one of best types of fruits. They are used in traditional medicine which helps in curing of many chest diseases and breathe problems. They are also laxative and purify the blood. The doctors say that its fruits are good for pregnant women because of its nutrients such as sugars. Nutritionists say that the powder of this fruit is as same as grains and has the same nutritional value. They call it unreal grain. In the past, people used to dry the fruits of Sidr and

grind them in their own mills to separate the sweet and tasty outer layer and then use its flour to make bread and various types of sweets. Sidr leaves are used to treat scabies and pimples. Leaves of Sidr are used for the treatment of joint pain, inflammation of the mouth and gums. Also the leaves are dried and powdered to wash the hair which strengthen the hair and remove the dandruff. The leaves are also used for bathing dead bodies. The flowers of Sidr are guarded and feed by the honey bees; it helps in producing high nutritional value honey called Sidr honey. It is expensive and the best type of wild honey. Its leaves are boiled and used for dental pain relief, reduce fever and used as a general tonic. Sidr trees are also planted for decoration, protection of soil erosion and give shades for the gardens and roads. Its wood is strong for multi-purpose use. Sidr trees are sometime affected by leaf leeches and flies in fruits. It must be protected and controlled when the infection occurs.

## Sidra Tree In Islam

The tree of Sidr has a great place in Islam because of its great benefits. It has been mentioned in the Qur'an 4 times, as well as in the hadiths of the Prophets and in the Prophetic Medicine, and the emphasis is placed on those who cut the Sidr without any need.

The first phase of the training program of volunteerism and training «A Volunteer In My Environment» organised training for the trainers in the area of environmental volunteerism in the Sultanate. It was organized by the National Field Research Centre for Environmental Conservation (NFRCEC) of the Diwan of Royal Court, in cooperation with Al Sharqiyah University. It was participated by a number of government organisations as well as the academic and research institutions of the Sultanate. It was held under the patronage of Prof. Fuad Shadid, vice chancellor of Al Sharqiyah University, in the presence of Dr. Saif bin Rashid Al Shaqsi, Chief Executive Officer of the NFRCEC and a number of officials of government organisations related to the environment. During the ceremony, the first batch of students of this program graduated. This programme has continued for more than two years.



## Conclusion of the first phase and graduation of participants of programme

# «A Volunteer In My Environment»



### Objectives of the program

- Developing cadres of Omani volunteers to work in the area of environment
- Increase awareness in the society about the environmental issues of the Sultanate and how to find appropriate solutions
- Promote positive environmental behaviour of individuals to serve the ecosystem of the Sultanate with the principles of sustainable development in all areas of its life
- Promoting environmental education and training in the Sultanate
- Activating environmental field research and promoting its values and principles in the Omani society
- Promoting joint work between government organisations, academic and research institutions and civil society in the Sultanate

There were 16 students of the Al Sharqiyah University in the first phase of the programme. As part of this programme, 85 activities, camps and works were organised. The programme won a number of awards at the local level including the fourth position in the Al Roya Award for Volunteerism. For this award, there were 89 entries at the level of the Sultanate. It was organised by Al Royanewspaper. Similarly, the programme also won Outstanding Project Award in Waiyyakum competition for environmental message organised by the Environment Society of Oman. The program achieved the second position in the voluntary work at the Gulf in Ihsan competition organized by the «Mobadiro Oman» in the Sultanate. It has also participated in a number of events, including the World Youth Volunteer Forum in Qatar, Forum of Voluntary Groups and Environmental Initiatives of the GCC countries in the State of Kuwait and the Forum of Youth Volunteer Initiatives of the Arab World in Kuwait.

#### Consolidating the concept of environmental education

Dr. Saif bin Rashid Al Shaqsi, CEO of the NFRCEC, emphasized on the implementation of this training program as an effort of the centre to create a generation to aware Omani youth which plays an important role in its environment and country and develop the culture of environmental education. This is from the light of the supreme approach of His Majesty Sultan Qaboos bin Said for engaging all segments of the society in the

conservation of ecosystem of the country and protection of natural resources for sustainable development.

He pointed out that the program has significantly helped in inculcating the concepts of environmental education in various segments of Omani society. The idea is to train a group of young volunteers who love their environment and want to protect them utilising their scientific and practical capacities and skills. After training, they

can also create awareness in the society about the importance of the entire ecosystem and its natural resources. At the same time, this also deepens and strengthens the concept of cooperation between the government and the society in the implementation of the programmes and activities.

Dr. Saif said: «The results of the first phase of the program were encouraging. They indicated that the programme was moving in the right direction. The number of programmes organised

and the number of the beneficiaries as well as the awards and appreciation which the programme got locally and outside is the clear indication of its success. It also showed that it had clear planning and moved towards real objectives and goals. This is why the centre has decided to continue it in the next phase by expanding the ambit of universities and colleges which would participate in it. It would also scientifically and technically improve the programme, so that the objectives of creating environmental awareness is achieved in a wider scale and the principle of sustainable development is taken into account.

#### Participating Students

Amina Al Makhiniyah, a member of «A Volunteer In My Environment» initiative, said: «The program had an enriching and stimulating activities and events. They helped me attain lots of skills and experiences. We also learned about the environment and the threats posed to it.

She added: We graduated from the programme with mixed feelings. This programme has gathered us as colleagues. We lived and had beautiful experience together. We learnt and taught others.

«A Volunteer In My Environment» programme was a turning point for me. It helped me discover my abilities and talents and made me integrated with society and environmental issues. It also fine-tuned my leadership and management skills. I am now proud to help members of the society to learn about their environmental issues and spread the culture of environmental conservation.



◆ **The programme is aimed for creating a generation of students of higher educational institutions to work in the field of environmental volunteerism and training.**

◆ **It is meant for developing positive environmental behaviors of individuals to serve the ecosystem of the Sultanate of Oman and its sustainability.**

◆ **The Programme won local and Gulf region awards in volunteerism**

◆ **More than 85 activities organised during the first phase**



She said that she would just not stop at educating the society about the environmental issues but would continue her awareness campaign. The initiative is a starting point for the enlightenment of the society about the environment and its conservation.

Rashid bin Salim bin Rashid Al Athoubi, one of the students who participated in the initiative, said: «The program 'A Volunteer In My Environment' educated and trained us in the skills required for the society in the area of the environment and its conservation. The programme fine-tuned our skills. Through the field visits, we came to know the efforts made by the Sultanate in environmental conservation. We would continue to create awareness in the society, protect the environment and make the Sultanate a symbol to follow in the area of environmental conservation.

Aisha Bint Said bin Salem Al Mahraziyah, a student from Al Sharqiyah University, said: «We started the program in 2016. We are 16 students. We are trained to take the initiative of educating the society about the environmental concepts, environmental issues, and risks due to lack of interest in it, how to protect its resources so that our environment is clean for the coming generations. We were trained in Al Sharqiyah University and in NFRCEC. We also visited several governmental and private institutions and participated in activities inside and outside the Sultanate.

She said: «The initiative has received many awards, including at the Gulf level. Through this programme, as we learnt leadership and management skills. We fine-tuned our talents and increased our knowledge about various aspects of life, particularly the environment.

Mazin bin Said bin Abdullah Al Dhawi, emphasised on the importance of educating the society about the environmental aspects of life. He said: The dangers faced by the environment are numerous and have serious long-term effects. The «A Volunteer In My Environment» initiative taught me a lot and developed my abilities and skills. It helped me understand my strength as well as weaknesses which required improvement. The programme helped me understand how to deal with different segments of society through workshops. We have worked as a team throughout the

programme and gained a lot. My goal is that the members of the society become aware of environmental threats and how to prevent them.

«I have a message that I would like to share through this platform,» said Al Dhawi. «We should join hand and utilise the skills of youth to create awareness about the environment.» He said that every individual in the society has the responsibility of environmental conservation and creating awareness in the society about the threats posed to it.

Athari bint Khamees Al Dawoodiyah, another student and leader of «A Volunteer In My Environment» programme said: «There are a number of objectives of the initiative, including the training and rehabilitation of young people in environmental volunteerism and refinement of their knowledge and expertise. This is to make them effective for creating environmental awareness in their community. This programme is aimed at participation in making the Sultanate a sustainable environment.

She added: We are conducting training workshops for different segments of society. When we talk about sustainability, we as Omani youth must be aware of environmental issues and how to protect the environment. We should teach the society about the elements of the environment and the adverse behaviour which are harmful to the society and causing depletion of water and food.

«I have learned a lot about leadership skills and how to face the challenges and difficulties in my surroundings. I also learnt how to write official letters, as well as coordination with others. Despite the programme has ended, I want to continue increasing awareness. Currently, I have a plan to focus on creating awareness in the summer centres about various aspects of the environment.

Marwa Salim Al Siyabiyah, a student at Al Sharqiyah University and a member of «A Volunteer In My environment» initiative, said: «The program has refined my skills and capabilities. It made me a leader in my home and society. I have learnt to instill self-confidence in school students. I also learnt the environmental concepts, work of environmental workers and the importance of their work. I want to form a special team to educate the community about the environment. The next step is to teach what I have learnt to school students and the community in general.



## Celebrations of International Day for Biological Diversity and World Turtle Day

The Ministry of Environment and Climate Affairs of the Sultanate of Oman celebrated International Day for Biological Diversity on May 22 and World Turtle Day on May 23 under the patronage of His Excellency Dr. Saud bin Hamoud Al Habsi, Undersecretary of the Ministry of Agriculture and Fisheries. The theme of this year's International Day for Biological Diversity was «Our biodiversity, our food, our health». This slogan was aimed in increasing the knowledge and awareness of the role played by the foods, nutrition, and health in biodiversity and ecosystems. It was also meant for highlighting the diversity of our natural systems for human existence, well-being on earth, elimination of poverty and contributes to the achievement of the fifteenth goal of sustainable development. This is in view of the disappearance of a large proportion of animals and plants and the extinction of many breeds of many wild animals as a result of pasture degradation and overhunting which is more than the limits of sustainable use of vital natural resources. The program included a number of components, including visual presentations on the importance of biological diversity of agriculture and food, as well as a presentation on natural plants of Oman made by Dr. Ali bin Hussein Al Lawati, and another presentation about sea turtles. At the occasion, Abdulaziz bin Said

Al Alawi gave a visual presentation on the biodiversity of the Sultanate. Engineer Sulieman bin Nasir Al Akhzami, Director-General of Natural Conservation, delivered a speech during the ceremony in which he stressed that World Turtle Day was celebrated in view of the role played by the turtles in the land and marine ecosystems. It was also to increase awareness about the importance of protecting them and

defending them from the dangers threatening their life. The ministry is making all efforts to protect components of biodiversity. Therefore, it is making several mechanisms to protect wildlife and preserve its natural habitats. It has made environmental laws and legislations. It has also announced establishment of various natural reserves and periodically monitoring wildlife through protection units and carries out studies and field researches as well as setting up observatories to monitor a number of natural conservation areas.

Al Akhzami said that in recent years, a national strategy and biodiversity action plan was prepared which reflected Sultanate's vision, policies and plans on the issues related to the protection and development of biodiversity. The strategy is currently being updated according to the Global Strategic Plan 2011 - 2020 and the Aichi Biodiversity Targets. At the end of the ceremony, Dr. Saud Al Habsi, undersecretary for fisheries in the Ministry of Agriculture and Fisheries distributed certificates of appreciation among the participants.



### Bahrain

#### Bahrain bans plastic bags

In implementation of the directives of the Coordinating Committee under the chairmanship of His Royal Highness Prince Salman bin Hamad Al Khalifa, Crown Prince and Deputy Supreme Commander First Deputy Prime Minister and in pursuance of the decision of the Ministerial Committee for Reconstruction and Infrastructure No. 2018-7-731 on regulation and reduction of the use of bags and other plastic consumables, Dr. Mohamed Mubarak bin Dinah, Executive Chairman of the Supreme Council for the Environment, revealed that Ministerial Decision No. 11 of 2019 on the issuance of the Technical Regulations for Plastic Products will enter into force on July 21.

### Qatar

#### Ministry of municipality and environment organizes awareness campaign in turtle's hatchery season

The Wildlife Protection Department of the Ministry of Municipality and Environment, in collaboration with the Public Relations Department, organized an awareness campaign during the hawksbill sea turtle hatchery season in the Fuwayrit beach. The event was attended by Omar Salim Al Nuaimi, Director of Wildlife Protection Department, Nasir Abdulrahman Al Sarami, Director of Public Relations Department and Ali Saleh Al-Marri, Head of the Wildlife Section. A number of officials of the ministry and the public were also present at the event. Omar Al Nuaimi said that this event was organised, in the season of hatchery of the hawksbill sea turtle seeking people's participation in leaving the small turtles into the sea. This was to create awareness about the biodiversity and marine resources of the State of Qatar.

### Saudi Arabia

#### Ministry of Environment registers 83 violations of the rule of conservation of water resources, slaps fine for more than 1.23 million riyals fine

The Ministry of Environment, Water and Agriculture has registered 83 violations of the rules of conservation of water resources and its executive regulations and slapped fine for more than 1.23 million riyals. These violations were found in the Arable and Arabian Shield areas of Riyadh, Qaseem, Madinah, Makkah, Hail, Baha, Sharqiyah and Tabuk. The ministry said that these violations included drilling of wells without a permission, digging wells without a permission to practice this profession, as well as cleaning the wells without a permission from the ministry, and increasing the depth of drilling contrary to what was mentioned in the permission.

### UAE

#### Ministry of Climate Change and the Environment launch a project of Natural Rock Barriers in coastal areas

As part of its strategy of conservation of environment and to ensure the sustainability of its natural resources and biodiversity, the Ministry of Climate Change and Environment has launched a project to install natural rock barriers in coastal areas across the UAE. Under the project, natural rock barriers would be brought and installed in number of coastal areas of the country to work as natural habitats for many types of marine creatures. It would play its role in enriching the natural diversity of the marine environment, increase the marine habitats of the country, increase biodiversity ratio, maintain biological diversity and provide incubation for marine life and habitats.

### Kuwait

#### EPA organises a workshop in cooperation with IUCN

The Environment Public Authority (EPA), in cooperation with the West Asia Regional Office of the International Union for Conservation of Nature (IUCN), organised a training workshop on «Documenting, Studying and Monitoring Ecosystems using Geographical Information Systems and Remote Sensing» from 18 - 20 June. This is as part of the capacity building initiative

for the project of monitoring and documenting biological diversity of the State of Kuwait. The workshop was opened by the Director of the Conservation Department of the EPA, Dr. Abdullah Al Zaidan and the IUCN Regional Director for West Asia Dr. Hani Al Shaer. It was participated by a group of experts from the research institutions as well as government and civil society organisations of the country.

## >> Aircraft smoke damage climate more than carbon dioxide

The impact of smoke lines emitted from aircraft during flight causes more damage to the atmosphere than the carbon dioxide emitted from their engines, a new study shows. These lines which are called contrails slowdown in the sky forming ice clouds and holding the heat in the earth's atmosphere. These lines are an out-of-account source of global warming caused by air travel. Researchers at the Institute of Atmospheric Physics in Germany now say the problem is expected to triple by 2050. The Independent newspaper mentioned the Corsica agreement saying that the United Nations plan to balance carbon emissions from air traffic from 2020 ignores the effects of non-atmospheric carbon dioxide emissions from aviation traffic. But the latest results will sound the alarm about the effect of the contrails on the climate. The researchers say the relative increase in radiation from the contrails will be greater than that of carbon dioxide, because the aircraft will become more fuel efficient. The report said that the total air traffic was expected to be four times larger in 2050 than in 2006, but aircraft generally fly slightly higher, helping to form contrails in the tropics.

According to the study published in the Journal of Chemistry and Atmospheric Physics, the areas most affected will be those located above North America and Europe, because these are areas where there is most of the air traffic.



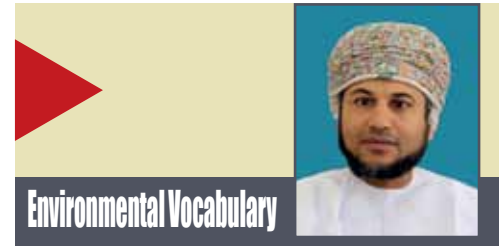
## >> Treasure rare creatures in the «Lost City»

The Lost City is also called the «White City». It is a mythological settlement hidden deep in Honduras's lush rainforest of La Mosquitia. It is said that remains of a mysterious civilization which existed in Central America long before Europeans arrived. Its unique ecosystem is one of its most important features. The United States-based non-profit organization Conservation International has undertaken exploratory tours of these protected areas in Honduras as part of its rapid assessment of the biological life of various regions of the planet. A team of the researchers of the organisation travelled in 2017 to that legendary lost city and discovered there a great wealth of pristine wildlife, including many species which were thought to be extinct. The field survey published by the website of the Conservation International showed the summary of its full report, published in issue 72 of the Biological Assessment Bulletin. The report presented an assessment of almost everything. Nearly 180 species of plants, about 250 species of insects, 198 species of birds, as well as dozens of different species of fish, reptiles, small and large mammals, and more new species of organisms, were identified.



## >> Climate change threatens Greek monuments in Greece

Climate change threatens Greek archaeological sites in Greece, including the Acropolis, one of the world's most visited sites, scientists said. Air pollution and acid rain degrade marble and extreme climatic events such as drought or floods have caused structural problems for ancient walls and temples. The Acropolis, on which the Parthenon temple was erected, is the most ancient archaeological site in Greece, but there is evidence that climate change is increasingly affecting it. «The walls of the old city are more eroded than in the past,» Maria Flazaki of the Greek Culture Ministry told Reuters. The Parthenon temple, built on the Acropolis in the heart of the Greek capital dates back to the Classical Greek period in the 5th century BC. Efforts have been made over the decades to protect the Acropolis and preserve its effects. The process has been accelerated since the mid-1970s, but the country has hundreds, of such sites exposed to erosion.



Environmental Vocabulary

### The Giant

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Deep in the deep sea, with its huge body, it penetrates the barriers of darkness smoothly, and in shallow depths it dances the water with other marine organisms. Some of those coexist with it, while others flee fear from it. Escaping from it is not only fear, but who come closer may become a delicious meal in its jaw, which likes mushy meats and strong bones. This is because it has a strong jaw and hard teeth.

It is considered a bone fish and possesses cartilage skeletons instead of bones. Its body is covered with skin consisting of several layers that help it to move smoothly in water, its upper colour is darker than the bottom to help its movement in the water and camouflage the enemies. Smell, hearing, sight, taste and electrical sense are the most important senses that use it efficiently. It has capability to smell and distinguish the odor of blood from miles. Through the gel pockets in its noses can pick up the weakest electrical currents that come from its prey even if it is hidden under the sand.

When this fish opens its jaw appears in the foreground about fifty teeth, while seven other disappear in the back row as an alternative. The front teeth despite their strength they fall quickly and in return grow another alternative tooth. This fish may lose about 30,000 teeth during its life cycle which may reach in some kinds to 400 years. It is therefore able to tear the skin, crush bones from fishes and hard shells into delicious food. These fishes breed through internal fertilization and the fertilized eggs hatch either inside the female body or outside, so some species give birth and some bleach.

Sharks are among the oldest vertebrate animals on earth, came before Dinosaurs to the existence, dating back more than 400 million years. More than 450 species have been recorded, the most famous of which is white shark predators. Despite its ferocity and bad reputation, it has many benefits in terms of its protein-filled meat, especially the dried meat, from which the tables are filled. Their skins enter in the manufacture of bags, their teeth in the manufacture of ornaments, while their liver makes oil. The fins come at the forefront of the demand for medical and food industry. The demand for these fish has increased to the extent of over-consumption. Let us preserve these ferocious and beneficial fish at the same time. It is the Giant (genie) that the sailerman is afraid from when it appears suddenly and try to catch him, and the Giant (genie) which if you possess it can benefited and controlled it.

# Natural Reserves

Marwa Al Mukhaini



Did you know  
that there are 24 natural reserves declared  
by Royal decrees and instructions  
to conserve biodiversity in Oman

## Al Qurm Natural Reserve

It includes biodiversity such as mangrooves, marine birds some crustaceans, shrimp, lobster shellfish and fish

## Turtles Reserve

It includes sandy beaches, rocky groves, sea turtles, coral reefs mangrooves, the forests of ghaf and some bird species

## Jabal Samhan Natural Reserve

It includes biodiversity such as the Arabian Leopard, Nubian Tahr Arabian Wolf, Hyena and Gazelle as well as Frankincense Trees

## Al Saleel Natural Reserve

It includes biodiversity such as cactus trees Arabian gazelle, wild cat and some small mammals

## Al Jabal Al Akhdar Natural Reserve

It includes mountain ranges, wadis rocky slopes ,biodiversity includes land and agricultural wild trees

