



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



Sultanate of Oman
Diwan of Royal Court

February 2018 - Jamadi Al-Akhra 1439

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

Issue 28

Winners of the Sultan Qaboos Prize for Environmental Protection

We transformed Singapore into a city within a park





point of view

UN report lauds Oman's efforts to restore the habitat of mangroves



The United Nations Environment Program (UNEP) has released a report on the efforts of the Sultanate made for the restoration of the habitats of mangroves saying that these efforts were bearing fruit. They are again providing camel feed, natural mangrove wood, cleaner air, more productive fishing areas, saline-resistance and tropical storm protection. The report lauded that since 2000, the government has worked with the Japan International Cooperation Agency (JICA) to plant seedlings in seven out of 11 governorates. The report also said that the government is protecting the existing natural mangrove trees, organizing the planting, coordination and organising

plantation of seedlings, and holding awareness campaigns throughout the Sultanate. The replanting of natural mangroves is an arduous task. When the transplant site is properly selected, 70 percent to 80 percent of the cultivated seedlings grow into trees. Seedlings take five years to grow into trees and begin normal germination. The priorities of the Department of Marine Environment Conservation of the Ministry of Environment and Climate Affairs of the Sultanate are to preserve and expand existing forests by replanting seedlings. The goal of the ambitious long-term project is to plant about one million mangrove seedlings. Nearly 700,000 seedlings have been planted so far.



250,000 visited Sultanate's reserves in 2017

The 18 natural reserves in the Sultanate attracted more than 243,980 visitors during 2017. The total area of these protected reserves reached to 11,791.760 square kilometers, according to figures released by the National Centre for Statistics and Information. The largest number of visitors in 2017 was in the nine plant and animal reserves with a total area of 11,174.450 square kilometers. The reserves

attracted 187,122 visitors. They have a total 177 workers. Also there were 55,362 people who visited the animal reserves of three protected areas with a total area of 612.500 square kilometers, while the number of workers in these reserves was 47. The total number of visitors to plant reserves reached to 366. The total area of these reserves are 4.720 square kilometers. The number of workers there was four.

Geotourism

Dawood Sulaiman Al Balushi
Editor-in-Chief

Two hundred scientists and researchers from 25 countries of the world are doing experiments of simulation of life on Mars in the desert of Dhofar governorate of the Sultanate. They have chosen the Sultanate from among various countries of the world to do such scientific experiments of international importance. This gives us a sense of pride and creates self-respect because the Sultanate was recognised for its unique Geotourism and scientific components of global importance. These are the geological scientific treasures of knowledge which were not explored earlier.

This is Sultanates unique topographical, ecological and geological diversity which has made it a place of attraction for scientists and researchers who wanted to explore the nature and space. This is part of the achievements made by the blessed renaissance which started under the wise leadership of His Majesty Sultan Qaboos bin Said. It is His Majesty The Sultan who recognised the importance of scientific development of the country in various areas of knowledge as means of growth of the society for a better future.

This experiment would open up horizons for government and private organisations and institutions as well as the civil society for scientific research and investigation of the projects which are distinct with the Sultanate. At the sametime, it is a new way for the development of geological and scientific tourism in the Sultanate. The environmental and geological components of the Sultanate, which include vast deserts, high mountains, caves with unique geological importance, wadis, sand dunes, beaches, aflaj, forts and historical and geological heritage, have opportunities for tourism investment in a way which preserves societys identity, history, scientific integrity and knowledge base.

We hope that the simulation of life on Mars will bring unique and positive scientific results and place the Sultanate in top of the world in scientific research. Similarly, the Sultanate would continuously have such scientific activities as due to the unique geological and environmental treasure.

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With more than 200 experts and researchers from around the world



National Centre participates in the Sharjah International Conservation Forum for Arabian Biodiversity

Coverage: Dawood bin Suleiman Al Balushi

The National Field Research Centre for Environmental Conservation (NFRCEC) of Diwan of Royal Court participated in the 19th edition of the Sharjah International Conservation Forum for Arabian Biodiversity organized by the Sharjah's

Environment and Natural Reserves Authority of United Arab Emirates, under the patronage of His Highness Sheikh Dr. Sultan bin Mohammed Al Qasimi, Member of the Supreme Council and Ruler of Sharjah. There were participation of more than 200 experts, researchers, specialists and environmental academics from various countries of the world.

- Discussed the Regional Red Lists of Endemic Plants in the Arabian Peninsula
- Discussed increased use of UAVs in maintaining biodiversity
- Forum aims at developing preparation of strategies for protection of endangered species



Three basic themes

The forum, which was held in the Sharjah Desert Park, discussed three main themes are the taxonomic topic that deals with the list of the regional red list of endemic plants of the Arabian peninsula for four days. It also talked about updating of list, current situation, major threats, recommendations for conservation and protected areas, IUCN World Standard for Identification of Areas of Diversity and main biodiversity and veterinary home diagnostics. This was continuation of the subjects discussed in 2015 which dealt with the performance of anatomy and collection of samples and the second form was in 2017 when the parasitic worms were discussed. This year the focus has been on physical fluid collections and their evaluation. It has also used different studies to highlight their



application in the veterinary groups. The forum also discussed the technical issue, specially increasing use of UAVs in the conservation of biodiversity including mapping, wildlife surveys, monitoring, law enforcement and medicine in conservation of biodiversity.

Ambitious goals:

The forum is aimed at contributing to the preparation and formulation of protection strategies and relevant action plans on endangered species of the Arab region. Where the Forum refers to a protection assessment and management plan laid and prepared by a specialised group in protection of animals of under the International Union for the Conservation of Nature (IUCN). The forum is a meeting and interaction point for experts and specialists to exchange experiences,

and information to assist in understanding the conditions and nature of life, natural habitat in the Arabian peninsula as it has a large biodiversity. It also helps to implement different plans for the protection of natural wealth and biodiversity in the Arabian peninsula. The Forum is a collaborative process because it brings together stakeholders, regional experiences in wildlife management and control. The working groups are focussing on collecting detailed information and data to assess threats to each category by using a document data of items designed in a systematic and orderly manner to determine conservation needs.

Strong force:

His Highness Sheikh Dr. Sultan bin Mohammed Al Qasimi, Member of the Supreme Council and Ruler of Sharjah,

welcomed the participants stressing that this annual forum will give a strong impetus to the continuation of the approach of protection of nature. (The Sharjah Conservation Program has started from this place twenty-five years ago) When also I was here, I found holes placed on some of the plastic wires. I asked: Why? They said, this is to hunt lizard (Dhub). I started to put the fence around this area at full speed and protect the area to keep more such animals alive everywhere. His Highness the Ruler of Sharjah lauded the efforts of scientists and researchers in conservation saying: (I say, we are not alone in this area, your existence and your studies, your research is our primary motivation to protect nature.)

Red List

Dr Kerik Tyler, head of the Red List group, spoke about the efforts of the group in the protection of endangered animals, and the efforts of Sharjah in this area as one of the most important global player which is making great efforts to raise awareness about the list through meetings, symposia and workshops. He presented a review of what the group has done over the past years and its outstanding achievements.

After the forests were threatened with extinction

Winners of the Sultan Qaboos Prize for

**Environmental Protection ... We transformed
Singapore into a city within a park**

The board of the National Park of Singapore was selected as winner of the UNESCO-Sultan Qaboos Award for Environmental Protection for the year 2017 in recognition of its significant contribution to the preservation of the environment and strengthening biodiversity in urban areas by restoring and preserving environments and rare species and supporting the educational system in all its stages to ensure this diversity. This is in addition to his management of the World Heritage Site of Singapore Botanic Gardens, 350 parks and four natural reserves. In an exclusive interview with the Lynx, Kenneth ER, Chief Executive Officer of National Parks Board, Singapore, talked about the efforts of the board to achieve environmental renaissance in his country, vision of the award and what is the impact of this award on the performance of his team.



In the beginning, please tell us how did you receive the news of winning the Sultan Qaboos Prize for Environmental Protection and how it will effect the future work of your organisation?

Of course, we received the news of winning this grand prize with great joy. It is a good thing to find international acclaim and appreciate for what you offer and believe in, especially in the field of environmental work. We have been very encouraged and honored to be awarded with this prize, specially since we had never imagined that we would get such a honor. We were surprised that this great award is given to our organization for its role in the management of the environment in cities. Therefore, I would chose this opportunity



We were surprised to receive this prestigious award given to our organization for its role in managing the environment in cities at a time when the world is preoccupation with climate change

We received the news of winning this coveted prize with great joy. It is always good to get international appreciation for what you offer and what you believe in



National Parks is the national organisation which manages vegetation and protects biodiversity in Singapore

to thank His Majesty Sultan Qaboos bin Said, the Sultanate and the UNESCO for this important award.

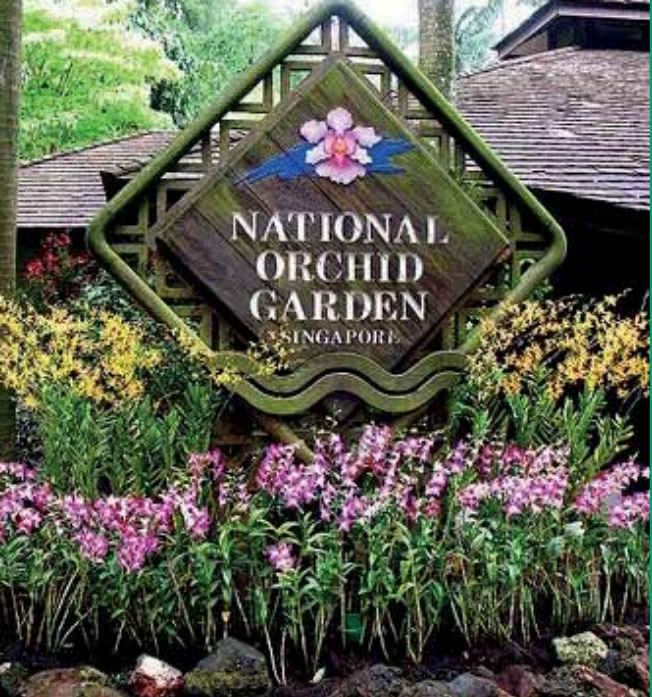
Would you tell us more about Singapore National Parks Board? What exactly is its role?

The National Parks Board is the national agency which manages and protects biodiversity in Singapore. It is a very vital and important role. You should know that when Singapore got independence in 1965, the environmental situation was catastrophic where only 10% of the natural forests left. But through the relentless work of more than 50 years of concentrated greening, we have made Singapore as a city within a park. This transformation is the fruit of the vision of the founding Prime Minister, Late Lee Kuan Yew. He believed that the abundant green environment in the fields and gardens would have economic and social benefits.

What are the major achievements of the board from your point of view?

Today, Singapore is a home to two national parks, including the Singapore Botanic Garden, which is now a UNESCO World Heritage Site and Fort Canning Park. We also manage 350 parks with 350 km of green lanes, in addition to two million trees in urban areas. In our country of which has an area above than 700 square kilometers, we have protected more than 3,300 hectares of land





are converted to natural ecosystem in four natural reserves. Our mission is to weave and integrate greenery into our infrastructure and protect our natural heritage for future generations. Although Singapore is highly developed country, it has a wide range of biodiversity, which includes more than 2,000 species of plants and 255 species of hard corals with unexplored species. In fact, during the past five years, we have recorded more than 480 new species of animals and plants. We are trying to ensure that our rich biodiversity thrives in urban areas. To achieve this goal, we have designed a master plan for nature conservation which would pave the way for Singapore's plans to conserve biodiversity.

Would you tell us more about your conservation plan?

The master plan for nature conservation includes four main directions, including conserving habitats by guarding and improving the major biodiversity areas of Singapore, providing and strengthening buffer zones, improving and managing green areas throughout the country, developing environmental links and integrating nature with urban landscapes. It also includes the improvement and management of the green areas of Singapore, Lake Goreng, the Banjul Astrid Scape and the Green Vertical Park. Community gardens also have to be connected with the environment, which is very important. This facilitates the movement of biodiversity which makes the inhabitants healthier.

There is also an approach to improve habitats and preserve threatened species. We will focus our efforts on endemic, local, rare or

to preserve the natural heritage of Singapore, the national parks have developed the Community in Nature (CIN) initiative, which is aimed at coordinating all events, activities and programs of National Parks related to nature. This is seen important to connect and communicate with the society and encourage its people to connect with environment. There are also social networking plans to generate public interest and its participation in the conservation of biodiversity. These plans target families, schools, volunteers, conservation groups and the general public. We encourage families to understand the nature and gain more knowledge about our biodiversity through programs such as the Families for Nature initiative, where awareness about nature is promoted. We also instill the love of nature in students by integrating biodiversity into the curriculum and greening the school premises through programs such as Green Schools for Biodiversity and Society in Nature



and Society in Flower. There is also a national network of people who are keen to preserve nature. These people are provided with relevant knowledge and resources to support their conservation efforts. We also spreading the message of preserving our natural heritage and instilling the love of nature among all.

Are you satisfied with what you have achieved? What are your ambitions?

Of course we are satisfied that our endeavor for protection of nature has been a collaborative effort involving our partners, sponsors and volunteers who have worked tirelessly to document our vital diversity, restore natural habitats and connect with the society. We dedicate this award as a tribute to the spirit of all those who preceded us to make us reach where we are now. But we will also continue our work and look forward to our ongoing partnership with the community to create a livable city, a vibrant city within a park, and in doing so contribute to a more sustainable environment for the world.

We communicate with the society and encourage people to connect with nature. We have plans to develop public interest and make them participate in the conservation of biodiversity



critically threatened species. Species such as Singapore's freshwater crab (Singapore jewel), local wild groups of seals and orchid palm trees etc. are given priority because they are seriously threatened and are local Singaporean species.

Another approach focuses on applied research in conservation and planning. It includes comprehensive surveys and long-term control over ecosystems and species. Research will be strengthened using technology in data collection, analysis, and environmental modeling based on agents or individuals to facilitate science-based decision-making. As a part of its national strategy

A blending
art and
magic of
nature

>> Dr. Hamad Al Ghailani inaugurates his personal exhibition about the Omani environment



Written by: **Dawood Al Balushi**

When the splendor of creativity is combined with the charm of nature to be captured by small lens of the eclectic sense of environment, a glittering painting emerges. This makes Oman an attraction of tourists and an ultimate destination of visitors. This is seen in the exhibition of the illustrious photographer Dr. Hamad Al Ghailani, who has always talked about the beauty of Oman from the peaks of the Musandam mountains, passing through the beautiful beaches of Bathina, and the purity of the environment of Dakhiliya, Dhahira and Buraimi and unique biodiversity in Al Wusta and Al Sharqiya and at the reaching to the beauty of autumn in Dhofar. The exhibition is aimed at highlighting the diversity and richness of the Omani environment and the importance of protecting it. This

a summary of the work of Dr. Hamad which is spread over a span of 27 years in the area of environment crossing villages, plains, wadis, mountains and beaches of Oman. He has made a beautiful blend of various landscapes of Oman and the diversity and richness of environment. It has more than 50 portraits representing biological diversity of birds, wild animals, whales, turtles etc. The images showed rare and endangered species of these organisms, including Arabian gazelles, ibex, and leopard, humpback whale, species of hook, green turtle as well as rare birds. As you stroll through the galleries of the exhibition, you will be sure that the Omani environment is a precious treasure of rare biodiversity. The images at the first glance assure you that the Omani environment still retains its brilliance, beauty and charm and invites everyone to enjoy and protect it.



Saudi Arabia

invests \$ 7 billion in renewable energy projects

Saudi Arabia is working on renewable energy projects with an investment of around \$ 7 billion this year. It is expected that the solar power plants will be first to give results. This year's tenders which are expected to be awarded would be for a total 4.125 gigawatts. This will cost between \$ 5 billion and \$ 7 billion, according to Turki Mohammed Al Shahri, head of the Renewable Energy Projects Development Office in the Kingdom of Saudi Arabia. Saudi Arabia is working to have 9.5 gigawatts of solar and wind power by 2023.

Bahrain

reviews its renewable energy plan

Bahrain reviewed its future plan for the renewable energy with a delegation from the International Monetary Fund. Bahrain is preparing to launch a 100 megawatt solar power plant, which is one of the largest renewable energy projects to be marketed and built in partnership with the private sector.

UAE

Dubai to convert landfills into power plants

Dubai Municipality unveiled a new plan to make the Emirate free of landfills by 2025 by converting them into power plants through the optimal utilisation of all forms of waste. The municipality has announced launch of world's largest solid waste and energy conversion project at an estimated cost of AED 2.5 billion. The project will be completed by the year 2020. The project will transform 100 percent of the landfill waste by 2030. This will contribute to Dubai clean energy strategy for providing 75 percent of Dubai's total energy production from clean energy resources. This would drastically reduce carbon dioxide emissions by 2050.

Qatar

«Friends of the Environment» Centre organises its first environmental camp

The Friends of the Environment Centre organised its first environmental camp for Qatari students in cooperation with the Cultural Committee of Al-Ahli Club Qatar. Thirty students participated in the camp which continued for 6 consecutive days. For the camp, the students held a full stay at the Centre. The environmental camp is one of the programs implemented by the Friends of the Environment Centre.

Kuwait

Progressing 52 rankings in the Global Environmental Performance Index

The Environment Public Authority (EPA) has registered a quantum leap in the Global Environmental Performance Index (YPE) of the Yale University Environmental Centre, ranking 61th out of 180 assessed countries, ranking 113th in 2016. In this regard, General of the Environment in Kuwait and its Chairman Sheikh Abdullah Al-Ahmad said in a press statement that according to the new assessment, Kuwait ranked second in the Gulf and Arab countries in this index.

Innovation of printing paper which can be used multiple times

Scientists of the Nanjing University of Telecommunications China have created a special paper which can be used multiple times in electronic printers. An article published in Nature Communications magazine has said that text and images can be printed on this paper without losing its properties even after its use for the ninth time. Chinese scientists were able to create a material that enables the text to be kept for a long time, and if necessary can be removed and another text printed on the same paper. The Chinese scientists have invented this paper by adding three layers on ordinary paper, one of which contains an organic terpyridine aromatic substance that can form stable colored compounds with ions of different metals, including iron, copper and zinc

Warning: A number of lakes of the world drying up very quickly

Environmental experts have confirmed that a growing number of lakes in the world are drying up very quickly, partly because of water misuse and climate change. Surprising images from satellites show that lakes such as the Aral Sea in Uzbekistan, the Urmia lake in Iran and the Dead Sea between Jordan, Palestine and Israel, becoming smaller and smaller every passing year. The Aral Sea began to dry up in the 1960s, because of the excessive use of its water in dryland cultivation in the former Soviet Union, and now it is almost 10 percent of the original area, after having lost 167 billion gallons of water.

Study: Sandwiches carry environmental damage which are equal to cars

The annual consumption of sandwiches in Britain carries the same environmental impact as the use of more than eight million cars a year, researchers at the University of Manchester have found. According to the British Sandwich Association, Britain is consuming 11.5 billion sandwiches a year, half of which is home-made and the other half is bought from stores. This annual consumption «produces an average of 9.5 million tonnes of carbon dioxide, which is equivalent to the annual emissions of 8.6 million cars,» according to Professor Adessa Azabagic. The researchers studied the carbon footprint of 40 types of sandwiches. They found that the worst of these sandwiches in terms of environmental impact



are those containing pig fat, cheese or prawns. The worst sandwich for carbon footprint is which is usually eaten at breakfast and consists of eggs, bacon and sausages. The authors say the sandwiches cause emissions of 1,441 grams of carbon dioxide which is equivalent to the emissions of car covering a distance of 19-kilometers. The «cleaner» sandwich is environmental friendly, consisting of bacon and cheese, which are prepared at home.



Environmental Vocabulary

The Giant Acrobat

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The sea, that vast aquatic universe, is composed of three letters, while occupies three-quarters of the globe. It holds many worlds in its womb, diving in it, and living in its habitat. Creatures of various shapes and colors, plants and animals, including what the eyes cannot see and the ears cannot hear. Huge water kingdoms swim in a space filled with water that has no land or sky. This vast water space created an environment for the largest animals of the earth, with large dimensions in length and width, they are whales, huge in the building and great in meaning.

It is a great blessing to Oman waters that overlooking the Arabian Sea to host one of the most important species of whales, which reaches up to twenty meters in length, and forty tons in weight. It is very huge, however its weight equals to half of the largest animals on the planet that known as Blue Whale. The humpback whale that characterizes Omani waters is one of the most skilled swimmers because of its strong tail fin that hits the water vigorously so the whale pushed very fast. At the time of its fun uses its strong tail fin to throw its huge body outside the water in acrobatic movement to see the other world and then return happily to its natural environment. It has its unique behavior among its species. It produces annoying sounds in different tones continuously rises up to fifteen minutes. It is undoubtedly the most noisy of its species. This may be needed to attract the female and draw attention to its presence. It feeds on many kinds of fish and crabs and has the ability to swallow thousands of them in one dose, however it stops eating at the stage of mating and depends on the fats stored in its stomach.

The female humpback whale gives birth once every 23- years after a pregnancy that settles in its womb for about 12 months, often carrying two small babies a time. The mother then feeds its young for one year. Although the habitats are radically different, the life cycle is the greatest common denominator among living worlds.

The humpback whale is skilled in swimming and diving. It may not settle in one environment. It does not know the borders of places and countries. Therefore, it is threatened to poaching and death in places where the umbrella of protection and law is not applied. A great effort by environmental stakeholders in the Sultanate to monitor and protect the humpback whale and the diversity that surrounds it. The situation remains urgent in intensifying and diversifying protection tools due to diversification and acceleration of environmental threats. The humpback whale, the huge and peaceful animal, gives us the feeling of the greatness of the sea that contains the beauty of the creature, and the integration of life.



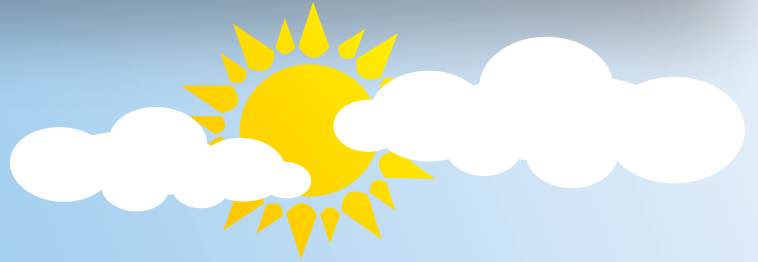
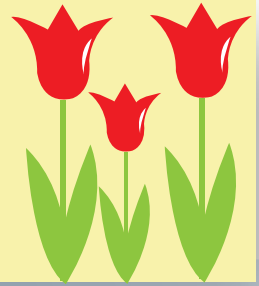
International warning of catastrophic decline of freshwater

The United Nations Environment Program (UNEP) has warned of a serious decline in ground freshwater, which has reached 70 percent since 1900. The UNEP has said that the last 40 years have witnessed a sharp decline in groundwater and in the number of animals and plants living in its vicinity remained 81 percent, which is more than double the rate of extinction of other marine and terrestrial species. The authors of this report have pointed out sharp decline in freshwater sources which is leading to the deterioration of

the surrounding environment creating threat to the life of the vegetation and animals of the large areas of the globe. These freshwater bodies, such as rivers, lakes and marshes, are a key source of human health and sustainability. They are the drinking water habitats of all living organisms in their surroundings. The water level of Russia's Baikal lake, which is the main aquifer of fresh water on the earth, has begun to decline rapidly by 6 centimeters and reached to the critical stage of below the normal level in January.

Plucking flowers

Design: Saalma Al-rabani



Because I saw you plaining with flowers and plucking them up ??

Why you didn't take me with you on you journey yeststrday ??



What is wrong with plucking flowers and enjoying its beauty view in the house ??



It is true that the beauty of flower is one of its advantages. But it has many benefits other than its shape. For example, trees maintain biodiversity in their places because many birds feed on them. There are many organisms feed from flowers such as butterflies and huny bees.

Similarly, if you plucking these flowers you deprive others from enjoying their beauty and attractive scent. At the end, the earth is also deprived of one of its most important sources of oxygen, which is the main source of human life and all organisms. There are also rare types of flowers used in the treatment of some diseases, keeping flowers is your contribution for treatment.

Now I understand my mistake and from now onward, I will never pluck flowers. I will protect it and irrigate it.

