



The National Field
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About innovative Environmental Research

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Sultanate of Oman
Diwan of Royal Court

Issue 31

“Eat and drink and do not waste..”

A message for ecological balance



Under the slogan «Plastic waste is a threat to marine environment»

Sultanate celebrates Regional Environment Day

The Sultanate of Oman celebrated the Regional Environment Day under the slogan «Plastic Waste a threat to Marine Environment», which falls on April 24 every year. It is celebrated on the anniversary of the signing of the Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution (Kuwait Convention) in 1978 which led to setting up of the Regional Organisation for the Protection of the Marine Environment on July 1, 1979. This organisation takes care on implementation of the provisions of the convention and its protocols which

are aimed at protecting the marine environment in the Gulf region from all forms of pollution, especially oil pollution. The region is one of the most important international shipping routes. It is also busiest as hundreds of tankers transport crude oil produced by the Gulf Countries, which is estimated to be 49% of the total world oil exports. In addition to this, the marine environment is of particular importance to the peoples of the Gulf Countries as a vital source of sea food and sea water is desalinated on which the Gulf Countries rely to compensate their lack of water resources. Under the slogan «Plastic waste a threat

to marine environment,» the dangers of plastic bags posed to the countries of the region which is commercially, economically and environmentally important. Plastic bags are already a threat of global concern and directly threatening marine life as hundreds of tons of wastes are thrown into the sea leading to deaths of many marine life. The celebrations of the organization, which includes all the countries of the Gulf Cooperation Council, as well as Iraq and Iran, is to focus on uniting efforts of these countries for the protection of marine environment and take follow-up actions in this area.



Oman participates with the world in Earth Day

The Sultanate of Oman participated with the countries of the world in the Earth Day celebrations, which falls on April 22 every year. This is marked as anniversary of modern day environmental movement under which millions of people from around the world demonstrated in the conference halls in 1970 demanding a healthy and sustainable environment. On this occasion, a number of environmental organisations of the Sultanate held various activities for children and family members to create environmental awareness in the society, develop their abilities and invest their efforts and creative instincts in protecting environment. This is important to achieve sustainable development in various areas and ensure better life for future generations.



point of view

Efforts of Ahmad

Dawood Sulaiman Al Balushi
Editor-in-Chief

Since the beginning of this holy month of Ramadan, Ahmad made massive efforts to create environmental awareness among the people of his village. He tried to educate and convince them to not to exaggerate while preparing food and eventually wasting it, reduce use of plastic bags while buying anything from market. He also worked to educate children about the importance of environmental conservation and preservation of natural resources. He tried to urge them that this holy month was a right opportunity to strengthen religious environmental values. This month is full of virtues and blessing for all human being. This is also a month when people welcome good advice and guidance and work with pure Islamic principles and values.

Ahmed urged people of his village to avoid exaggeration in preparing food of all kinds. He reminded them that this month was not for food-consumption. It is actually the month of mercy, forgiveness and prevention from the fire of hell. He formed a team of villagers to collect extra food and distribute them to the poor and needy. He was successful in instilling this idea and creating awareness among the people of his region. He also collected some donations and made eco-friendly bags and distributed them among the people of his village to be used while purchasing to avoid plastic bags. Ahmad helped reduce the use of plastic bags which are harmful for the environment. Now, most of the people of his village have made it a habit to use bags made of clothes.

During this holy month, Ahmad, with his beautiful works and behaviour, has made wonderful example of love to his country and its environment. This was his resolve which helped creating environmental awareness on which our religion also urges. He used the virtues of this month in sending the environmental message to the people of his village and changed their behaviour and practices. This resulted in some other neighbouring villages adopting these ideas and positive practices. This helped in conserving the ecosystem and reduced wasting of natural resources.

In each of our villages, we must have people like Ahmad to become torchbearer of these positive ideas which help in development of the society and protect various other aspects of it. Instead, in all of us, there should be a part of the personality of Ahmad who with his own hand served his beloved country. The protection of the environmental and natural sources of the Sultanate is responsibility of all.

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National Centre conducts a survey of BIRDS in the wetlands reserve « Bar Al-Hakman »



Written by - **Nasr Al Rahbi:**

A team from the National Field Research Centre for Environmental Conservation, in coordination with the Ministry of Environment and Climate Affairs participated in a survey of marine birds in the Bar Al-Hakman wetland reserves in Al Wusta governorate, in cooperation with experts from the International Wetlands Organization of the Kingdom of the Netherlands. The survey was aimed at following migratory birds which land in the reserve and their study. This is because, the Sultanate of Oman has a unique ecological diversity which attracts diverse wildlife, especially migratory birds which travel long distances in its migration. The participation in the survey was aimed at monitoring the water birds and their condition at the continental level. This was important to collect data supporting their conservation and habitats in wetlands.



■ Researchers used two methods in the first survey (counting the individual) and (counting in units)

■ Many tools used in research to achieve the objectives of remote migratory waterbird surveys such as telescope

■ Researchers identified an area where movement of birds expected, nets installed in the area, wind speed taken into account so that not to lose nets



Survey of migratory birds:

The team of researchers at the National Field Research Centre conducted surveys on migratory and settled birds using two methods in the first survey. One of them is individual counting under which each bird was counted separately according to its type. The second method is counting in units. This method is used for large numbers and groups. Each group has ten birds 10x20x30 ... etc) and require some kind of skills and experiences to reach to the correct numbers.

Bird's remote scanning:

The researchers used many tools to achieve the objectives of the migratory waterbird survey, most notably the binocular telescope, which is used to track birds from a distance. This binocular telescope can be used in the survey by moving the vehicle in the raster. Another tool is telescope, which is an important device for remote monitoring of birds. Through this one can watch objects closely though from distance. Even smaller details can be seen through it in the bird like premature and existing legs rings, if any. It is also used in the survey as bird counting device. There are birds of different types and shapes. They can be counted with this telescope.

New experiences :

The team learnt technical details of the survey from its participants that how to use it, how to collect details about birds and how the leg's rings work and how to divide the region for the study, how to overcome the challenges facing this movement or migration and take care of appropriate field safety guidelines during driving and their equipment.

Net:

The researchers identify an area where the movement of birds is expected during tides in the wetlands, nets are erected in the area may be up to 50 meters long and up to 3 meters high above sea level. The nets are opened after the sunset so that birds can not see. While doing this it is taken care that wind speed does not even cause loss of nets.

Inspection tools:

The balance is one of the devices used to examine the birds and to know their weight and dimensions. The researchers also used ruler to collect data of dimensions of birds, such as the length of the wing, beak and leg. Also there is camera which records the image of the bird which shows its shape, colors and size.

Authentication:

After collecting the data, researchers put rings on the legs of the birds to serve as bird identification card. These rings help in the study of these birds. In addition to this, there are other methods such as a sign on the bird's neck, color and signs on wings. This is required to recorded type, length, time of observation, and other important data about the birds. The team relied on reference books for the researchers to accurately identify the birds while watching them and compare them. It also helps in understanding if there were new records about them which were not confirmed in the past in the area of the survey.

“Eat, drink and don't waste. He does not love the wasteful” is a message from Almighty Allah which urges us to protect our environment which he has given to us. A simple view makes us realise that one of the most important causes of global environmental crises is the lack of commitment of human being to this call of God, and the lack of awareness of his role as a witness and caliph on the earth. This is also because of human beings non-commitment to the principles of development and co-existence without excesses and non-negligence, and the ideal use of our environmental resources which God has given us as a responsibility to protect them for the future generations and other creatures. It is a call from God against the imbalances, injustice which disturb the life and the nature, and a commandment of the Almighty, for the Muslims to lead best and balanced life as a community of middle path, away from excesses and its threats to the environment and all its components.

“ Eat and drink and do not waste ..”



Ramadan an opportunity:

The month of Ramadan is a month of virtues, mercy and forgiveness as a spiritual moment which demands obedience and an opportunity to correct understanding of our true religion. Many environmental voluntary organizations are trying to create awareness, believing that this holy month is important for our Islamic society. This is the month when people want to be more obedient and start changes in the pattern of consumption and start simple life on this earth. People want to harness local knowledge, innovation, values and ethics and develop local models of better development through the green movement during the month of Ramadan. They want to focus on green innovation as a method of environmental awareness. They want to push for a balanced green lifestyle respecting religious values which urge adherence to sustainable development. God has given responsibility to human being on earth to abide by the idea of sustainable development. The question is that how much we subscribe to the idea of renewable energy during this Ramadan and how much we are prepared for this in terms of awareness, understanding, coexistence and mercy.

Awareness Campaign:

Friend of Environment, which is part of the program patronised by the National Field Research Centre for the Environmental Conservation, is one of the agencies which launched campaigns during the month of Ramadan to create awareness among the social groups to take sufficient food in Ramadan but do not waste it, and strengthen the social sensitivity and relations with the environmental issues.

“The goal of the campaign is to benefit from the holy month of Ramadan, to encourage local communities to reduce food wastes, and to educate the society to not to waste food, not to throw excess food in the trash, Protecting the environment and society from environmental hazards arising from wasting excessive food,” said Azari Al Daoudiyyah, patron of the team of Friend of Environment.

She said that the campaign was to hold a number of discussion programmes in several places, where we make these video presentations aimed at preserving food. We also discuss some photos about the poor countries and the countries which use considerably excessive food. We also discuss the subject of food and sending that message that the food was the

bounty of Allah and it is a must for us to preserve them. A caricature contest was also being organised about rationalising food consumption. The idea is that the message should reach to the mass that for our future we must preserve food and avoid its excessive use more than they are required.

Community efforts:

The ‘Preserving the Bounty’ in Buraimi governorate is a youth team which wants to strengthen the idea of preserving the bounty of excess food, especially during the holy month of Ramadan and on the marriage ceremonies. The team communicates with the society to create awareness about wasting food.

Khalid Bin Marai Al Yahyai, member of the team of the voluntary group ‘Protection of Bounty’, said that the team was aimed at instilling values and principles of the Islam and to Preserve the Bounty. It collects the food which is more than the need, and prepare it properly after ascertaining its validity for human consumption and distribute it to needy families. During the month of Ramadan the remnants of food is collected after the Isha prayer, to confirm its validity and then placed in proper containers.

Al Yahyai said that the “Protection of Bounty”



A message for ecological balance

Call for optimal use of our environmental resources

« Friend of Environment »

Holds awareness
campaigns for
rationalisation of food
consumption and its
preparation

team which was established 2012 was playing its role in the environment protection. It believes in its social responsibility of preserving the bounty and the environment. This initiative is a model for minimising the waste from the leftover food as it damages environment and public health. We collect the leftover food which is fit for human or animal consumption and deliver them for recycling.

The winning team of the Wa iyyakum volunteer competition is one of the most active teams in the holy month of Ramadan. The team has more than 120 volunteers who travel to Al Buraimi governorate to collect food leftovers and provide them in a manner suitable for the needy.

Awareness role:

Dr Hamad bin Mohammed Al Ghailani, an environmental expert and environmental awareness director at the Environment Society of Oman (ESO), said that the association was doing some special activities during the month of Ramadan. As part of these activities, the ESO is organising 'Seen Jeem' (Question & Answer) competitions. It is a competition which is based on questions and answers about environmental issues, endangered species, biodiversity and the environmental diversity in the Sultanate. These activities are carried out at the governorate level, annually in two or three governorates. The program was organised last year in Salalah, Sur and Masirah. As for this year, the competition was held in Sohar, Nizwa and Ibra.

Green environment:

The «Green Environment» team consists of 18 volunteers. They are students of Technical College of Ibra. Although this year's Ramadan coincides with college examinations, the team has carried out a number of environmental activities and contributed to environmental awareness in this holy month.

Hamad Bin Hamoud Al Shethani, the Green Environment team leader, said that the team's goal was to protect the environment with all its dimensions and to encourage people to participate in the voluntary work for their environment. The team organises a number of activities, including exhibitions and workshops on recycling waste.

On the efforts of the team made during the month of Ramadan, Al Shethani said that despite the lack of time, the team organised a series of environmental awareness activities, particularly a workshop which was aimed at creating awareness about environmental hazards. It was an effort to communicate with the people about how to deal with the environmental issues in the society. A group of students gathered at Al Yahmedi Park, and discussed all environmental issues. The team also participates in campaign to clean one of the tourist areas in Ibra. He pointed out that the Green Environment team will end its activities in this holy month by organizing a volunteer evening for the students of the college.

« Protect the Bounty »

collects excess food,
recycles and
distributes it
to the needy

« Seen Jeem » « Q & A »

a Ramadan awareness
contest organised by
Environment Society
of Oman in Sohar, Ibra
and Nizwa

« Green Environment »

includes activities
ranging from
awareness workshops
and campaigns to clean
tourist places



Sultanate to establish Middle East's largest marine aquaculture farm

The Ministry of Agriculture and Fisheries of the Sultanate of Oman has signed an agreement with the Korean company Haejoo Engineering and Contracting Company Ltd. (HAEJOO) to establish largest artificial reef aquaculture farm in the Middle East in the Wilayat of Suwaiq. It will cost RO 2,600,000 (about US \$ 6.76 million). According to the Department

of Development Information in the Ministry of Agriculture and Fisheries, the agreement was signed to establish a marine farm of artificial reefs in the wilayat of Suwaiq of the North Batinah governorate. The project which will complete in two and a half years is 20 kilometers long and 7 kilometers wide, along the coastline and at a depth of 15 to 30 meters. The

project will support the production of fish to reach to 480,000 tons by the year 2020. The number of 4280 units of artificial reefs will be used, distributed to three different models. The marine farm of artificial reefs is one of the most important projects aimed at enhancing and sustaining fish stocks in the Sea of Oman and increasing its productivity.

Bahrain:

Compulsory «code of ethics» for financial sector coming

The Bahrain Association of Banks (BAB) announced that it is gearing up to launch «code of ethics» which will have guidelines for the banks and financial institutions of Bahrain. It will help achieving objectives of sustainable development. The announcement was made during the forum on «Sustainable Development in Financial and Banking Institutions.» The forum emphasised that the banking sector should create opportunities for sustainable development financing rather than avoiding risks involved in it. It also urged them to finance projects in the interests of all parties, including depositors, borrowers and the economy as a whole, without harming the environment. Ali Ibrahim, chairman of the committee on sustainable development and corporate social responsibility of BAB, said that international organizations have set standards for assessing banks' performance and their operations which are more sustainable, in emerging markets, according to several criteria which calls for giving attention to individuals' needs through appropriate banking services, financing projects which prioritise sustainability.

Saudi Arabia:

Special police, courts to deal with environmental violations

Saudi sources have revealed that Kingdom's General Authority of Meteorology, the Ministry of Planning and Economy and the relevant authorities were working together to establish an «environmental police», which will have primary task to protect inspector of meteorology and environmental protection, fining and taking legal action against those who cause environmental pollution. The sources said that there

were also efforts to set up courts to look into environmental cases. For this purpose, the judges will be educated about the environmental sciences. The sources revealed that the cases about environmental issues are varied between the emission of odors and gases from sites and crushers, burning of waste, rising fumes, landfill and scraps, pollution of oil, waste dumps, deaths of fish and destruction of coral reefs.

Qatar:

Launch of 2nd set of environmental standards for infrastructure projects

The Ministry of Municipality and Environment has announced the launch of the second package of environmental standards for infrastructure projects, prepared jointly with the partners of development in Qatar. The ministry has organised a technical workshop to present and discuss the environmental standards for infrastructure projects. It was attended by 116 participants including representatives of various departments of the ministry, other ministries, public and private sector organisations and consultants working on infrastructure projects.

UAE:

Launch of the Environmental Satellite in 2019

Adnan Mohammed Al Rais, chairman of the department of remote sensing at the Mohammed bin Rashid Space Centre, revealed that the work on the DM SAT1 environmental satellite owned by Dubai Municipality was 70% complete. It will be ready for launch in first half of the year 2019. He said that it was the first artificial environmental nanomaterial satellite of the municipalities in the Arab world. It

is aimed at monitoring, collecting and analysing environmental data, using space technology. It will be useful in finding solutions of the challenges to the urban pollution and the climate change. He said that there would be an electronic link between Mohammed bin Rashid Space Centre and Dubai Municipality. It would help transmit information to be analyzed by the concerned authorities in the municipality.

Kuwait:

Environmental friendly fuel project to start next month

Kuwait's oil minister, Bakheet Al Rashidi, said that the project of environmental friendly fuel will become operational in June. Around 94 percent of work on the project was complete by the end of March. According to the official agency, the minister said that the environmental fuel project was «one of the largest refining projects in the world and it will produce products of international specifications and standards and will take Kuwaiti oil facilities to the forefront of top refineries of the world.» The project is aimed at developing Al Ahmadi and Mina Abdullah refineries belonging to the National Petroleum Company. It includes establishment of 39 new units, modernisation of seven units and closure of seven others, focusing on the production of high-quality products such as diesel and kerosene for export. The total cost of the project is 4.7 billion Kuwaiti dinars (\$ 15.5 billion). The company is financing 30 percent of them, while the remaining 70 percent will get financial support from Kuwaiti and foreign banks.

Cows may become biggest mammals in size in a few centuries

A scientific study has revealed that the spread of humans from Africa to the rest of the world during thousands of years has resulted in killing of large mammals. This could mean that cows would become the biggest mammals on the planet in a few centuries. The spread of primitive humans from Africa coincided with the extinction of mammals such as the mammoth elephant and the tiger both with sharp teeth. «There is a very clear pattern of extinction on the basis of size that followed the primitive human migration from Africa,» said Felisha Smith of the University of New Mexico, to Reuters. She

led the research team, on the study published in the journal Science. «The report, which studied patterns of extinction over 125,000 years, They apparently targeted large breeds for their meat while smaller organisms fled like rodents. In North America, for example, the average body mass of mammals decreased to 7.6 kg from 98 kg after humans arrived. If the trend continues, «the cows will be the largest mammals on earth in a few hundred years,» the research team wrote. This would mean the extinction of mammals including elephants, giraffes and hippos. Last March, last male of world's white rhinoceros died in Kenya



Environmental Vocabulary

The Hunter

Eng. Khalifa Badawi Al Higgi
almitc@yahoo.com

It flies with its great wings, indicates its strength and braveness. It is exactly right because it possesses unique characteristics among its species. Its love for the environment made its existence restricted between two environments that rarely diverge from their surroundings. The mountain and the sea are the fabric of its life, both homeland and its food, its life and stability. This brave bird has made a vital harmony between two environments that are linked by natural harmony. Its existence with those who share the same environment as a spirit that brings life between the bodies of the sea and the mountain, embracing as a single body, revealing the beauty of nature.

This brave bird nests with its partner, which is larger in size, in the mountains adjacent to the sea. Both build the nest of life that lasts for many years. It uses in the building the natural components of ropes, trees and tree branches. The nest may reach tow meters in length and restored continuously to produce a new life every year. Between November and May it is the golden period of egg laying with an average of three eggs. After 50 days of care the chicks reach to adulthood and independence adding to the environment another spirit and beauty. Of course the male is never separated from its female partner except by losing it, then it searches for another female who shares its life.

Its body structure is adapted to live in this complex environment. When it flies in the sky watches through wide eyes with a sharp look searching for its prey. From high level its eyes can penetrates the surface of water to determine the prey of the fish. Once the fish prey determined, quickly fished by claws of this bird to find it selves swimming in the sky instead of sea. This Osprey bird, which has many local names, is only the raptor bird that prey on fish and feed on it and eats only from its prey. If there is no fresh the alternative is dead fish. Possibly it hunts wild rabbits if the sea stops giving fish.

People may confuse, some think Osprey is an Eagle but it is not, and some think it is Falcon but it is not. The Osprey is stronger than the Falcon, and eats only from its prey unlike the Eagle. The Osprey can behave like an Eagle only when there is a shortage of fresh fish so it goes for a dead one. The Eagle eats from the hunting of others and dead bodies. Because of this shared behavior the Osprey derived its name.

The Osprey is the symbol of strength and courage, it is known through history. Some people are proud to name their children as Osprey (Arabic name). We are proud to find this bird carved its life in the Omani mountains bordering the sea, taking it as a safe home and a sustainable avenue for a better life. Nature sometimes has subtle sounds that we humans may not realize, feels the surround creatures with its happiness, security and stability, so all the beings attracted from every place share it happy life and safe environment.



A new species of suicide ants

Biologists from the Natural History Museum Vienna have discovered a new kind of ants, which blow themselves up when they feel angry, to wrap their enemies with sticky poison. This species of ants were discovered in the Borneo forests and named as 'colobis expludence'. They explode their bodies by pressing the abdominal muscles with huge force. According to the British newspaper Daily Mail, this «suicide blast»

causes immediate death of the ant, but it is accompanied by the release of a sticky yellow liquid, produced by large glands behind the jaw. According to scientists, the viscous liquid has a distinctive «curry» smell, capable of killing attacking insects or severely injuring them. The jaw of the suicide ants also sticks to the body of the attacker with force at the time of its death, if it does not die by poison.

More than 95% of world's population breathing unhealthy air

More than 95 percent of the world's population is breathing unhealthy air and the poorest countries are hardest hit, according to a new report. According to the annual World Air Condition report published by the Institute of Health Effects (HEI), long-term exposure to air pollution contributed to the death of an estimated 6.1 million people around the world in 2016. The report adds that exposure to air pollution led to strokes and heart attacks, lung cancer and chronic lung disease, causing many premature deaths. «The results of the report show real progress in some regions of the world, but serious challenges remain

to eliminate this avoidable ordeal,» said Bob O'Keefe, vice president of the Institute of Health Archeology. The report also took into account people who inhaled emissions from domestic solid fuel burning in their homes. These solid fuel are used for cooking or heating, leading to indoor air pollution. In 2016, a total of 2.5 billion people, or one in three citizens around the world, were exposed to air pollution due to solid fuels such as wood or coal. Most of these people live in low- and middle-income countries in Asia and Africa where they face indoor and outdoor air pollution.

Fishing tour

Design: Marwa al.Ghafri

My brother why did you throw the fish back into the water which I had caught? Aren't all these creatures created for us to eat ?!

Because this is a very small fish, my brother. We will not benefit from eating it. This is why I returned it to the water so that it grows up and some other people come and eat it

the earth with its creatures is your responsibility and all must preserve it, so that it remains for us and also for those who will come after us

The Almighty Allah, has given us the responsibility of this earth and will judge us. He asked us to eat, drink and get benefit of all his creatures without wasting them. Otherwise, the earth will be destroyed and also those who live on it. Human being will also suffer because of its own bad deeds regarding its environment.

Yes, my brother. Our prophet, peace be upon him, has urged us to plant a tree even if the Day of Resurrection approaches. Our religion teaches us to maintain the gifts of God without waste. This land is not our property, but it is our responsibility as given by Allah

We have to satisfy for what God has given us to leave a share to other human beings and creatures

