



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

November 2016 -Safar 1438



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



Sultanate of Oman
Diwan of Royal Court

Issue 14

**In interview with the winners of the Sultan Qaboos Prize
for Environmental Preservation 2015**

**the prize honors scientists and encourages
them to make greater efforts in
Environmental preservation**



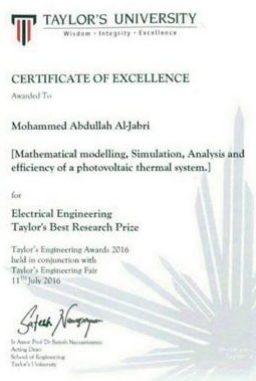
Ramsar Convention on Wetlands

Ramsar convention on wetlands is considered to be the oldest international convention in the field of environment preserve, it is a representation of the framework of international and national cooperation for the preserving and sustainable use of wetlands and its natural wealth. Ramsar convention started in 1971 in Ramsar city in Iran, and was carried out in December 21st 1975, it is also regarded as the one international convention in the field of environment that treats a special environmental system. Moreover, the convention now included 2177 regions, with a space of 208 million hectares in 168 countries around the world, and still counting; further, every participant country is ought to announce at least one Ramsar region to be included in Ramsar list, and to assure the conservation of ecosystem for every region, this is by protecting it in the framework

of systems of national lands use, encouraging conservation, the perfect use of the natural resources, establishing natural reserves, encouraging the programs of training and scientific researches related to administrating wetlands, negotiations among countries and exchanging experiences in the field of the execution of the convention's goals especially when it comes to the joint areas between countries; for instance, rivers, border protectorates and the regional projects related to wetlands. Furthermore, the Sultanate joined the convention according to the Royal Decree No. (64/2012) concerning internationally important wetlands, the accreditation of the Sultanate joining the convention came in May 2013, with one site which is Qurum Natural Reserve which lies in the middle of Muscat, with total area of 80 hectares of Avicennia Marina trees.

Omani Student gets the Best graduation Project about Global Warming in Malaysian University

The Omani student, Muhammad bin Abdullah Al Gabri, has received the best graduation project award on the university level, in the field of renewable energy and global warming from Taylors Malaysian University. Al Gabri, who is widely concerned with environmental issues especially global warming, studies in his last year in the field of electrical and electronic engineering. The student is ambitious to widen the horizons of this research to participate in developing this aspect, looking forward that the Sultanate may one day become a solar energy dependent country instead of fossil fuels. About the project, Al Gabri clarified that solar energy is one of the clean and renewable sources of energy, adding that it is sustainable and provided anywhere on earth; we can benefit from this energy by using traditional solar panels, which transform 20% (maximum) from the solar energy to electricity the rest is transferred into thermal energy and benefit in nothing. Also the photovoltaic panels are less



efficient the more the temperature rise. The suggested system is a combination of bath electrical system and thermal one, in united body working on increasing the efficiency of energy production. He added that the body is built by developing special mathematic equations to study the body before starting the actual building, it works on measuring and mimicking the main indicators that affect the overall performance on the energy produced. After developing these equations, the system was built, nanotechnology Floyd was used in a special place, it is a liquid that contains microscopic-sized particles that efficiently absorb heat, allowing huge quantity of solar energy entering the complex transferring into heat; therefore, the electricity production increases by maintaining the low temperature on the photovoltaic panel, and in the same time getting benefit from the heat absorbed to heat water for example.

point of view



Give me Thought!

Dawood bin Suleiman Al-Balooshi
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The Environmental thought is not a curriculum taught in schools, universities and colleges, it is a behavior instilled in the minds of all the segments of the society, a culture of community instilled in deeds before sayings, translated into reality in our homes and community, and a straight approach ordered by our religion, and urged by Sunnah.

Many negative environmental actions occur repeatedly in front of people, it might be simple in the matter of action, but it is big in the matter of meaning, the one who does such actions thinks it is natural; however, such actions represent a dangerous environmental behavior that indicates no awareness in this doer, uncaring for what he just did.

Some of these actions are represented in throwing waste on the beaches and in touristic places, manipulating public property, cutting the tree roots for cooking in entertaining trips, and throwing rubbish from cars' window.

Such negative environmental actions deteriorate the behavior of many people, maybe a man can instill such bad behavior in his sons and family automatically by him practicing it. Environmental awareness is not the task of the governmental parties alone, it is a duty to be done among all, governmental and private parties, schools, clubs, and voluntary associations; basically, it is all about individuals' behavior inside the one home, the role of the father is to aware his sons with the positive and ecofriendly thoughts and deeds, so that he can be their role model in all his daily practices.

A whisper to parents: Give me thought, give me behavior, and I will be a loving individual for his home and environment, and I will preserve it away from manipulators.

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Objective: Setting a database for the preservation of biodiversity

The National Centre is carrying out a survey on birds and butterflies in the Sultanate

By: Nasr Al Rahbi
– Said Al Rashidi

A Group of researchers from The National Field Research Centre for Environmental Conservation has carried out a survey of butterflies and birds in the Sultanate. This survey comes within a number of field researches made in order to support the environmental research as well as to raise its level; in addition to setting a database of the Omani environment to preserve its rich biodiversity.

has to do with every single bird and butterfly. They also depended during their field visits on detecting the locations of birds and butterflies diversity through past researches and references. This usually happens after the field visit as the supervisor of the whole survey process detects the survey area randomly, then he records its coordinates and the timing on which the survey is supposed to begin and finally identifies the transect line, which the team workers abide by; in addition to determining stop spots along the route and determining the distance and time taken between one spot and another.

birds survey findings

The survey, made by the National Centre, detects more than 80 types of birds, which represent 15% of all the Omani birds recorded that spread throughout Oman's different environments and seasons. The locations which are good and suitable in Muscat are hotels, public parks, Al Ansab Lakes and Al Qurm Natural Reserve. Besides, the Gull is a type of the resident birds that can be noted easily in Muscat as well as roller birds, pheasant birds, bee-eaters, nightingales, birdies, crows and seabirds.

Midwinter is considered the best time to watch rare duck types as endangered Hamraoui Ducks, in addition to the Egyptian Eagle (also known as Vulture). The agricultural areas at the coasts of Al Batinah North are attracting places to birds throughout the whole year; for example, lark birds, all types of bee-eaters, magpies and hoopoe birds. There are a lot of migratory birds within the spring season in Musandam Governorate, which provides an opportunity for researchers and those concerned with birds to watch many types of them, as: vultures, types of grey shrike; in addition to warbler and cuckoo birds that reproduce at this time of the year in Musandam. The deserts extending from Arabian Sea at the east to Rub Al Khali desert at the west in Al Wusta Governorate form many important locations for desert birds as Qatta birds, hoopoes and crows.

Butterflies survey findings

Butterflies belong to Lepidoptera insects' family. The survey proved that many areas specified for birds and butterflies are plenty in different Omani environments. Moreover, there are more than 70 types of butterflies in the Sultanate according to past researches. Colorful Coronal butterfly tops the list as well as Ghassa butterfly of simple kinds which are all have been documented by the researchers of the National Centre. The data of butterflies that is surveyed form 20% of all Omani butterflies which has been recorded according to the Omani references specialized in these kinds. The survey also shows that the butterflies are usually abundant in different Omani environments, such as valleys, gaps and near lakes.

◆ **527 types of birds have been recorded in the Sultanate; researchers from the centre detect more than 80 types and their location**

◆ **Simple Coronal and Ghassa types of Butterflies top the list that researchers recorded in the survey**

◆ **The diversity of butterflies depends on what they are fed on, and their abundance is associated with their food abundance**

This survey also aims at creating a database of butterflies and birds as this is a kind of documentation for the great biodiversity of birds in the State.

The official list of birds in Oman refers to the number of birds recorded that reaches 527 types; an impressive number that reflects the geographical and biological diversity in the Sultanate. Besides, about 80 types of these birds live in Oman. On the other hand, other types are either migratory birds that migrate in both spring and autumn seasons or they just reside to spend the winter in here. Consequently, the Centre is keen on carrying out this survey of birds and butterflies: their types, genders, behavior, and the reason why they are there at many locations in the Sultanate.

Research Areas

The survey included vast parts of the Sultanate, as the research was made in Lazagh village and Green Mountain in Ad Dakhiliyah Governorate, Qahoan Mountain in Ash Sharqiyah South Governorate as well as Wadi bani Auf and Hubra'a Oasis in Al Batinah South Governorate, Al Saleel Natural Reserve and Al Qurm Natural Reserve in Muscat Governorate. A Group of birds and butterflies that are greatly abundant in the Omani environment were incarcerated, including both resident and migratory birds.

Survey Mechanisms

The Centre researchers used a number of Atlas books and booklets concerned with birds in the survey in order to get their names as well as the most important information that



In interview with the winners of the Sultan Qaboos Prize for Environmental Preservation 2015

the prize honors scientists and encourages them to make greater efforts in Environmental preservation

Sultan Qaboos prize for Environment Preservation is the best expression for the Sultanate's international perspective of the importance of the humane family participation in order to accomplish the safety of environment of earth, this agrees with His Majesty the glorified Sultan Qaboos bin Saeed -May God save him- invitation in Environment International Conference that was held in Argentina, where his Majesty emphasized the importance of cooperation among humans to preserve the environment. The 2015 UNESCO Sultan Qaboos Prize for Environment Preservation was awarded to Fabio A. Kalesnik, Horacio Sirolli and Luciano Iribarren of the Wetlands Ecology Research Group, University of Buenos Aires, Argentina. Wetlands is considered one of the most important environmental system with high productivity on the biological and economic levels, it covers 6% of land area on the planets, they are places filled by water, partially or completely, flowing or stagnant, salty or fresh, sustainable or temporary, natural or artificial, seasonal or lasting the whole year, and it contains marine environments with depth no more than 6 meters; it also includes, for example, Bays, valleys, springs, waterfalls, dams, Aflaj, natural or artificial ponds, lakes and coral reefs and sea grasses and salt marshes, swamps, sand dunes, stretches of silt in areas characterized by tides. Wetlands are also regarded as sensitive areas that can be easily deteriorated, especially that it is facing now several environmental pressures whether humane or natural; for example, Urban sprawl, backfill, wastes, oils, pollution with its various kinds, soil erosion, chemical pesticides used to spray crops, which is transferred by rains and various human activities, the destruction caused by the floods, climate change and the negative change in the physical and chemical components of seawater, especially the concentrations of salinity and temperatures. Due to all the aforementioned causes, the importance of Sultan Qaboos Award appear, that's why In an exclusive interview with Lynx, the winners of the UNESCO Sultan Qaboos Prize for Environmental Preservation 2015 speak about their work and environmental issues.



- » We were so proud and happy for being selected to win this great award, which is considered to be honorable achievement for the whole team and great appreciation for our contribution in Environment Conservation
- » The Award motivates us to continue our work on the biosphere reserve "Delta Del Parana" and the models of sustainable management of wetlands
- » The Global Economic System is not concerned with environment, which causes a disaster for the few remaining valuable wetlands on the planet



In the beginning and after receiving your prize, how do you think the UNESCO Sultan Qaboos Prize for Environmental Preservation can contribute to environmental protection and public awareness?

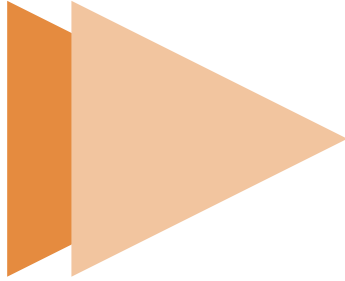
Within the context of the current problems of loss of environments and biodiversity and the increasingly cumulative negative impacts on nature, we believe that the prize highlights various environmental issues, and encourages

people and communities to make concerted efforts to protect and nurture nature. The prize winners remind us that there are lot of people and communities that support, very generously, such pro-environment activities for the benefit of all the inhabitants of the biosphere.

How did you look at winning the UNESCO Sultan Qaboos Prize for Environmental Preservation 2015?

We are happy and proud that we have been chosen for this great award,

in recognition of our contribution to the preservation of the environment. We feel privileged that our work had been appreciated by the United Nations Educational, Scientific and Cultural Organization, which focuses on the three concepts that we consider highly significant in our lives: education, science and culture. Recognition is something really hard to achieve, so it means a lot for us that we have been recognized from others parts of the world. We



the creation of the Paraná Delta Biosphere Reserve. Since then we have been involved with the various development stages and significant events of this Biosphere Reserve. After its establishment, we have been collaborating with its operations, and regularly attended the Reserve Management Committee meetings and discussions for 15 years. In recent times we contributed to ensuring its operational continuity. The global economic system and the present crises threaten the environmentally valuable territories left on the planet. However, our failure to act intelligently and decisively results in the region heading towards socio-environmental degradation.

What are the reasons behind this environmental degradation from your perspective?

A dangerous combination of several factors is responsible for this, and they include loss of native plant communities, moving away from traditional pro-environment activities, mega real estate developments and a high rate of emigration of local residents. Against this backdrop, we tried to combine conservation and ecological restoration of wetland environments,

model of secondary forests and the characterization of new types of environments.

What about your initiatives concerned with the development of productive alternatives for island residents

In relation to the initiatives in development of productive alternatives with island residents, we can mention the development of a model that aims to generate productive activities that benefit both people and their environment. It is based on the preservation of seedlings of native plants that grow in places where the plants are in danger of being cut or crushed (e.g. active forest plantations). We can also mention the proposal of adding value to the enterprise of beekeeping by ecological restoration of native forests. This was achieved through planting native forest species in areas where beekeeping activities are carried out. In this way we could diversify the reserve's flora and added to the abundance of the plants and trees in the forest.

Among our environmental education and training initiatives, we can mention the publication of a book on environment and development issues, and a booklet that gives information on botanical garden and creating a nursery of native plants in island schools, and various educational posters on DPBR reserve. Also we produced an audiovisual aid and a card game on environment.

Further, dozens of teachers received specific training in specialized courses that we developed; and these teachers implemented environmental education projects in their respective schools. All the initiatives are aimed at identifying the interactions between natural and socio-cultural factors that operate in the DPBR, and they also highlight the traditional ways of exploitation of natural resources. The projects help enhance and rebuild the individual and collective identity of the island by teaching them about the natural wealth and history of the community.

What is the significance of the Delta del Paraná Biosphere Reserve?

Biosphere reserves are areas where, through appropriate zoning guidelines and management procedures, it is combined conservation of ecosystems and biodiversity with sustainable use of natural resources for the benefit of local communities, including important activities of research, monitoring, education and training. The significance of the DPBR lies in that it is located at the end of one of the most important rivers of South America (the Paraná river) and also at the end of an extremely large basin (the Plate basin).

- » **The biggest dangers facing wetlands is losing many native plants and stopping the traditional activities that support environment, in addition to expansion of urban development**
- » **We tried to restore the wetlands and preserve it through environmental educational projects, and involve population in managing the biosphere reserve**
- » **We sought reclaiming the ecological system by planting native plants, transporting seeds bank, and analyzing the biological invasion in the area**



believe that this award motivates us to continue with our work on the 'Delta del Paraná' Biosphere Reserve (DPBR) and sustainable land management models along with other social and environmental issues.

What are the major contributions by the Wetlands Ecology Research Group of the University of Buenos Aires that earned you the award?

In the year 2000, our research group had the opportunity to contribute to

education projects, and alternative earning options for the island community and involved them in the management of the Biosphere Reserve.

Could you comment on your (the team's) socio-environmental studies and environmental education and training initiatives?

Our major initiatives in conservation of the environment and species of the DPBR, include the mapping and description of the last patches of native forests, ex-situ and in-situ seed bank studies, essays of ecology restoration based on plantation of native plants and translocation of seed bank, analysis of biological invasions, the study of potential anthropic use of plant species, the develop of a succession

The Sultanate seeking the matter of establishing (The Environmental Monitoring) in the cooperation meeting

The Sultanate, represented in the Ministry of Environment and Climate Affairs, researched some important environmental matters; for instance, studying the project of establishing Environmental Monitoring Centre for GCC, this discussion took place in the 37th meeting for environment affairs in GCC. The meeting was held in Jeddah, Saudi Kingdom. The meeting also discuss the partnership

program and environmental work in the Gulf area, also the internships suggested by Sultan Qaboos University in training environmental professionals in all the environmental programs; for instance, biodiversity, nature conservation, fungal life and its administration, environmental pollution and its monitoring and administrating, policies and international conventions negotiations.

To Be Its First Movie About Environmental Education

The National Centre Produces «The Environment, a Life Experiment» Documentary



The National Field Research Centre for Environmental Conservation Preservation Department, has produced its first documentary specialized in environmental Education, named: The Environment, a Life Experiment. Environmental education is one of the main activities the National Centre undertakes. The third article of the Royal Decree -that started the Centre- stated that the concepts of the field research, in the importance of preserving the environment, shall be established by embedding it in the educational courses. In addition it shall be discussed in seminars and workshops with coordination with specialized parties.

The Centre supports and enriches the educational courses in the Sultanate through the experiences and results it gets from the different projects it undertakes. Environmental education is one of the international tools used in development and sustainability. It aims to amend the present and future dangers that surround the Omani environment; by reconnecting Omani citizens with their environment through encouraging field research and establishing it in the youths' minds. The National Centre made sure that the new documentary be quick in accordance with the speed and abilities of the students. The documentary was determined to be in Diko Drama: a cinematic mold that combines between cinematic and documentary work; in order to deliver the right environmental concepts; through a group of Omani students in the same age category subjected by the documentary. So that the new documentary be in a language students understand, to be From and To them.

African-Arab Meeting to Discuss «the Biosphere»

The Sultanate, represented in the Ministry of Regional Municipalities and Water Resources, participated in the first Arab African Regional Meeting about Biosphere Protectorates and International Hydrological Program in the context of climate change and the targets of sustainable development. The meeting was held in Tangier, Morocco, with the participation of presidents and representatives of the national committees of Man and Biosphere Program and the International Hydrological Program for the Arabian and African countries. This meeting is one of the preparations for UNESCO General Conference on Environment, which aims at uniting the efforts of Man and Biosphere program and International Hydrological Program, considering that water issues have direct relation with preserving the ecosystem and the biosphere. The meeting also aims at clarifying the thoughts, uniting visions and efforts, and determining Arabian and African countries' priorities in the issues related to environment and water, and the important challenges that face these countries.

The first green bonds in the world gathered twice what was planned

A member of the World Bank Group, issued a first-of-its-kind bond that gives investors the option of getting repaid in either carbon credits or cash, raising \$152 million to support private sector development and prevent deforestation in developing countries. Each year, 5.5 million hectares of tropical forest area—an area approximately the size of Costa Rica—are deforested. Protecting forests is critical to keeping global warming under 2 degrees Celsius while offering an important opportunity to boost rural livelihoods and protect vital ecosystems. “Halting deforestation is essential to meet the global

community's climate goals,” Jingdong Hua, IFC Vice President and Treasurer. “To do that, we need to mobilize \$75 billion to \$300 billion in the next decade. Much of this needs to come from the private sector. IFC's Forests Bond demonstrates the power of innovative capital-market mechanisms to unlock private sector funds for forest protection.” The five-year bond was sold to major global institutional investors—including CalSTRS, Treehouse Investments LLC, TIAA-CREF, and QBE. Proceeds will support IFC's private sector lending in emerging markets. The bond will be listed on the London Stock Exchange.