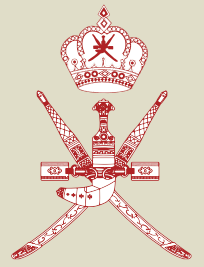




The National field research
centre for environmental
conservation



Sultanate of Oman
Diwan of Royal Court

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Arabian Tahr

a significant element of Sultanate's "biodiversity"

SQPS learns about Biodiversity at Jebel Shams



A team of students from Al-Sultan Qaboos Private School (SQPS) took part in a week-long programme of the mobile camp organized by the National Field Research Centre for Environmental Conservation (NFRCEC) at Jebel Shams.

This participation had the objective of identifying the biological diversity in this region and helping the students acquire scientific knowledge about the environment. During the programme, students were provided with information about the plants existing in the nature reserve; in addition to information about the Arabian tahr. They were also provided with a simplified explanation about the safety methods in the field work. The methods of performing random surveys for big and small mammals, recording the coordinates of environmental sites and inventorying the birds according to their species and numbers were also explained.

The program of the camp included also training the students on fixing traps for the small animals and insects of different species. They were also trained on how to fix camera traps. After that, the field experts provided the students with some field training in order to make them fit to walk long distances as part of field research.

The camp included training on the practical steps of dealing with small mammals including determining their species, measuring their weight and putting marks on the animals that have been found in traps to identify them if they are caught in traps once again. The students watched some insects caught in the traps at Jebel Shams like the flying spider, beetle mosquito, butterflies and other various small insects. They also watched through the camera traps animals like the red fox, some birds and small mammals.



Viewpoint

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I learn from her ..

She is very young, yet I sometimes learn from her many positive behavioral traits that I once instilled in her but later forgot. Once by mistake I threw out waste bag through the car window; and not clear all of a sudden my daughter screamed in childish tone: "This is wrong. God will punish you for throwing waste in the street." I stopped the car, got off and picked the rubbish bag and deposited the same in the allocated waste bin. I also apologized and thanked her for her responsible attitude and didn't forget to buy her a gift as a token of support and encouragement. Such a positive attitude and concern for our environment must instilled in our children and youngsters by exposing them to fundamental environmental concepts from a young age so that it becomes daily habit on the strong conviction that those are right actions and thoughts in line with Islamic believes. Developing a socially responsible and ethical attitude among the new generation is very important in the light of fast-paced technological revolution we witness today. Children are constantly exposed to a lot of ideas and traits as they interact with technologies in their daily lives. So, we must be fully aware of the underlying challenges, and guide our children toward right conduct that conform to our religious norms. Environmental education attitude than just knowledge. It is more practice than theory. Modern studies stress the importance of educating children about positive attitude at an early age, confirming that the family plays a pivotal role in instilling right behavior in children without ignoring the progress and development brought about by modern age. The studies also highlight the role of the community and social organisations like sports clubs in promoting such an attitude. Again, the responsibility of parents and educators is crucial. In fact, what you cultivate today will be harvested tomorrow. We win when we educate them. We are the role models for them. Our children are the backbone of the country's future and the basis of the community. We must pay attention to our children and their behavior for the progress and development of our society.

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NFRCEC committed to participating in international environmental events

NFRCEC attends World Science Forum, Participates in UNESCO Sultan Qaboos Prize for Environmental Conversation 2015 award ceremony

UNESCO Sultan Qaboos Prize reflects the Sultanate's keenness to address global environmental and development issues



policies and objectives with regard to the environment, field research, education and training. Further the award inspires and supports various environmental awareness programs through allocation of environmental materials and crucial resources that are aimed at establishing and managing protected areas such as biospheres and natural world heritage sites. The history of the Prize begins in 1989, when during a visit to the UNESCO headquarters in 1989 His Majesty offered a generous donation to support persons contributing



Winning team's contribution to wetland ecosystem significant



to environmental affairs. In 1991 the Sultan Qaboos Prize for Environmental Conversation was instituted, and was declared that it would be awarded to individuals, and organisations (government and non-government) who make

significant contributions towards preserving the environment.

Search winner

The Wetlands Ecology Group, consisting of Prof Fabio Kalensnik, Prof Horacio Sirolli and Prof Luciano Iribarren, was selected for the prize for their significant and pioneering studies on a broad range of ecological aspects linked to the ecology system of wetlands, which are considered one of the most productive environments in the world. The studies focused on socio-environmental issues as well. The team also undertook significant environmental education initiatives. Their work on the unique Panama River Delta, as well as their instrumental role in establishing the Delta del Parana Biosphere Reserve, which is designated under the UNESCO Man and Biosphere Program have contributed significantly to the field of environmental conservation.

Wetlands constitute a source of biodiversity as they provide water and raw materials needed by countless plants and animals for survival. In addition, they provide basic environmental services and act as open windows to the complex interactions between diverse cultural and biological systems.

The National Field Research Centre for Environmental Conservation (NFRCEC) at the Diwan of Royal Court participated in the World Science Forum (WSF), which was organized by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in Budapest, Hungary. The Centre also attended the award ceremony where the 13th UNESCO Sultan Qaboos Prize for Environmental Preservation - 2015 was presented to the Wetlands Ecology Research Group of the University of Buenos Aires, Argentina. NFRCEC also had a strong presence at the environmental exhibition held as part of the silver jubilee celebration of the UNESCO prize distribution organized by WSF. The Centre's participation comes as part of its dual policy of associating with international environmental events with a

view to benefiting from global expertise in the field of environmental conservation, and also highlighting the Sultanate's pioneering role in the field of environmental field research so that the commendable efforts by the Sultanate in preserving the environment and its various elements are brought to the public domain.

Importance of the award

The Sultan Qaboos Prize for Environmental Conversation puts the Sultanate's sound vision on serving the environmental and development issues in an international context, as the award recognizes and encourages significant contributions and sincere efforts of individuals, groups, authorities and organizations concerned with environmental affairs and issues without any discrimination of gender, race, dogma or creed. The whole concept is in line with UNESCO's systems,

Great efforts to protect Arabian Tahr

Arabian Tahr

a significant element of biodiversity in the Sultanate

◆◆ NFRCEC conducts studies on Tahr to protect it from extinction and conservation

The Arabian Tahr is considered one of the most significant elements of biodiversity in the Sultanate. It is a cloven-hoofed mammal animal. The height of its legs reaches about 60 cm and its total height is about 90 cm. The Arabian Tahr acclimates to the environment in which it lives. During the winter, the Tahr herds go to the valleys and plane lands, while in summer, they move to the high mountains and the peaks.

The mountain ranges, deserts and plains provide safe habitats for the Arabian Tahr in the Sultanate. The Tahr herds take these places as safe shelters to which they escape when in danger or when they want to get some food.

Protection Efforts

Though these species enjoy full legal protection, their numbers are estimated to be less than 5000. They are decreasing continuously despite the significant efforts made by the Sultanate to preserve them. Also, scientific information available for supporting the programs of conservation such species is still little.

In line with the important role played by the National Field Research Center for Environmental Conservation (NFRCEC) in field research, the Centre has taken up the task of studying the environment of the Arabian Tahr in order to support the Sultanate's programs to protect such endangered species and to conserve the environmental system of Al-Hajar mountains where these creatures live. Through the Arabian Tahr research project, NFRCEC seeks to expand the conservation scope in the Sultanate as it is designed as a

collaborative global project in conservation.

This project focuses on several key aspects, the most important of which is to evaluate the status of the Arabian Tahr by identifying their resource needs and distribution patterns. In addition, the project studies the threats facing the Arabian Tahr and also works towards drafting an action plan for protecting it. Simultaneously, NFRCEC has created environmental awareness materials related to the Arabian Tahr in order to build Omani competencies in environmental conservation.

The methodology of this promising research by NFRCEC on the Arabian Tahr centres on developing a new and enhanced system of studying the Tahr in its very difficult environment with the objective of evaluating its status at Al-Hajar mountain ranges along with studying its social behavior and system. The research also seeks to identify how the Tahr lives in its environment, apart from its movement patterns and requirements.



Data Collection

In order to achieve this objective NFRCEC used remote sensing camera traps and a survey of their traces to evaluate their distribution.

Through strenuous efforts researchers could collect significant data which clearly identified the places in which the Arabian Tahr exists. The Centre followed it up with efforts to understand the behavior of the Tahr considering the fact that their behavior, breeding, environment and ability to survive in the hard environmental conditions are all inter-related.

Understanding the original environment of the Tahr

The most significant threat facing biodiversity in Oman is the deterioration and loss of natural environments. This certainly applies to the mammals. The environment is defined as the biological and non-biological characteristics needed by all species to survive and breed. Therefore, it is necessary to know the components of the Arabian Tahr's environment in order to understand how to preserve its vital resources and thus protect the species. To understand the Tahr's

Tahr digs holes to communicate and show its capabilities, and also as a means to fight parasites



serve the



environmental usage characteristics, these animals were captured and tracking collars fixed. These collars provide highly accurate data about the location of the animal, the places it visits, and the patterns of its movement and requirements. Monitoring the Arabian Tahr for a period of one year contributed to understanding and deducing the needs and details related to food sites, shelter requirements, and seasonal resource needs. Determining these requirements is essential for preserving the Arabian Tahr. Over a period of one year and half, the Centre has managed to capture 15 Tahres. They were then released into the wild environment after fixing the tracking collars on nine of them. It is now clear that the Tahr travels a distance ranging between 2.4 -11.8 km daily.

The male Tahr moves in a bigger boundary compared to the female. Their activity reaches its peak at 6 am and 4 pm approximately. During the summer, they become more active during the night hours. The peak of its activity is recorded in the early and late hours of the day respectively.

Fieldwork! Its Practical Philosophy & Scientific importance

By Engineer Khalifa bin Badawi Al-Higgi

Early Royal Attention paid to the importance of balancing the equation between Human and the Environment significantly reduced environmental degradation in Oman

Partnership

Human beings are not living alone in the ecosystem; there are other organisms as well that have the right to their share of natural resources. However, human beings benefit the most from such resources both directly and indirectly. Nature is an integrated system, and if any element of it is lost or damaged, the entire system will suffer.

People should recognize this fundamental fact. Ensuring the healthy development of the ecosystem is beneficial for the progress of mankind itself. Conserving nature is the only means available for man to enable continued use of natural resources for his survival. Accelerated progress and development that is now underway in the world is disproportionate to the extent and volume of natural resources available today. Eventually it is nature that pays the tax for this skewed progress.

Factual examples that indicate the harm caused by unbalanced development include the poor quality of air we breathe and the water we drink.

Man, along with other creatures benefits from nature's bounties. However, man's need for such resources is never satiated, it increases day by day. Thus he started chasing them everywhere including underground, by digging wells and aflaj. After water became unavailable on the surface (due to natural flow), man invented tools to draw it using technology.

Man: tool of change

As man has the capability to effect change, positive as well as negative, every negative change brought about on nature must be more or less balanced by positive impacts. The equation may not be balanced always, still it is better than having no positive changes at all.

In the case of Sultanate, nature has already paid the price for the (necessary) development process. However, rising awareness about the importance of making the equation more balanced has significantly reduced the degradation of the Omani environment.

This eco-awareness was the result of great efforts by HM Sultan Qaboos bin Said, the architect of the Omani renaissance who paid great attention to the environment and accorded it the highest priority in the nation's development process. As such, several environmental organizations have emerged since the dawn of the blessed renaissance.

The efforts exerted in this regard were not only limited to the establishment of such organizations, but institutional development has taken various forms to suit the developmental needs of the times. They have been quite effective in ensuring the health of the environment and its many components.

Attention paid to develop National Cadres

Upskilling human cadre has been an important aspect of the environmental conservation project. This was achieved through the establishment of institutions concerned with environmental affairs, and other independent institutions aimed at training national cadres through field work and designing ambitious projects to protect the environment. Such institutions include the National Field Research Centre for Environmental Conservation (NFRCEC)

that was established by Royal Decree No. (54/2009) intended to be a cornerstone of the Royal attention paid to the environment.

NFRCEC: Royal Vision for Human & Environment Development

The name of the Centre itself makes it clear the Royal message conveyed by His Majesty about the necessity of concentrating on human resource development, particularly in the environmental field. Nobody can bring about a positive effect to the environment unless they are academically qualified to do that.

Field works and researches play a key role in this endeavour. The national cadres are trained to study the environmental issues carefully and collect important data that address not only environmental issues but also the development process on a more comprehensive scale.

This concept was not totally absent in the previous generations, but enhanced development and increased comforts in life call for more innovative solutions and approaches. Clearly today people are not motivated enough to work in the field which doesn't offer the comforts of the office. Despite the importance of desk research and laboratory work, field work is deemed crucial, as research sites are considered natural practical laboratories that uncover the secrets of nature. Field researches also establish a strong relationship between the researcher and the surrounding environment inspiring the former to explore nature's deeply hidden secrets.

Since its establishment, NFRCEC strove to instil this concept among its staff through quality research and field studies. Many researchers from other institutions as well as students pursuing higher education have also been involved in such researches and studies. The youth of the Sultanate have also been informed of these basic ideas through effective environmental education programs in schools.

Motivating the new generation to interact positively with nature in their different environments and study their interrelations will help them realise the importance of conserving the environment and will also provide them with solid academic background to apply relevant concepts on the ground. Field researchers and people who are passionately involved in exploring nature, whether male or female, are capable of understanding the language of nature more than any one else. They effortlessly realize the threats and damages to nature. Accordingly they can make and apply appropriate decisions that enhance the health of the environment.

Exchange of experiences

The exchange of academic and field experiences and knowledge among countries brings in tremendous benefits to the environment. The Sultanate, with its strategic geographic location and unique biological diversity, deserves a scientific and practical leadership, particularly in the field of environmental conservation.

Oman's diverse environment attracts specialized

Human beings have been continuously interacting with nature ever since the human race appeared on the planet. The humans are able to survive here only because nature provides them with all vital support in a generous manner. Human and nature coexist according to an instinctive genetic composition without exaggeration or negligence. Human seeks to improve the quality of life while trying manage severe competition for shared resources. In the process, however, started sowing the seed of unsustainable exploitation of nature, sometimes unknowingly. The fact is, natural resources, however vast they may be, may not be able to fulfill the endless needs and aspirations of human beings.



scientists and researchers from all over the world, and as such the Omani researchers must enhance their efforts by using their thoughts, works and knowledge. They should take the lead in conserving their environment and heritage, and share their culture and experience with the world.

Various indicators lead us strongly in this direction, particularly in light of the fact that NFRCEC has achieved remarkable successes in a short span of time. As a result, the core objectives of field work have been achieved. It's no exaggeration if we say that NFRCEC has devised methods to consolidate this concept (along with NFRCEC's projects) which include the Mobile Field Unit that has involved and trained many researchers, supervisors and students at various levels across research sites. These efforts have resulted in amazing scientific outcomes such as the discovery natural elements that have not been previously recorded. These discoveries will be announced in due course. All data collected on the ground have been entered into a scientific database so as to enable their analysis and use in the scientific, research and planning fields.

The way to develop a strong generation of

field researchers is not easy. It involves several challenges. NFRCEC's experiment in this regard has been successful in terms of funds and time. Having an effective vision and a ground plan to follow up short and long term strategies will help address such challenges.

Besides, national field work policy necessitates employing safety measures in field work. Every researcher and field worker must undergo intensive courses on field safety and driving in rugged areas. Also, they must be trained in first aid and other medical assistance.

To conclude, let me say that the Omani environment is quite diverse and unique with its natural attractions such as mountains, beaches, seas and plains, as well as the rich flora and fauna. Every person living in our dear country is responsible to ensure the health and vibrance of such natural attractions. We are all responsible for conserving and protecting our natural heritage so that we can hand it over to our future generations in a better condition than its current status. Conserving our natural heritage is crucial to our existence and life.