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NEWSLETTER

Shah Latif University
Botanical Garden
& Herbarium



Labour Day 2012



*“Let’s celebrate the labor day
That built up this great land
From field to field to desk to desk
They built it hand in hand”*



Centre for Biodiversity & Conservation give Tribute to their Labor on International ‘LABOR DAY’ for their consistence services, support & effortless contribution to make this Institute exceptional infield of research, awareness programmes, study tours & conservation.



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Combretum constrictum (Benth.)

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One Day study tour with Sindh Pre-Step, Karachi



On 8th May Group of 45 students accompany with 10 Teachers under leadership of Ms. Aneela Meerani, Professional Development Specialist, Sindh Pre-Step from Karachi Visited SLUBGH. One day Study tour was focused on their Academic syllabus as Animals and plants share the biosphere with each other. Many organisms live in groups and some of these groups are highly organized. Other organisms have very close associations with each other, some living in or on the bodies of others. All animals ultimately depend on the green plants, the producers, for their food. Humans share the biosphere with all the other

organisms; the only difference is that humans have the ability to influence their environment.

The Director, Centre for Biodiversity & Conservation give talk and showed Documentary on “Indus – Not so Mighty Any More by WWF-Sweden” to Delegates of Pre-Step. Also briefed ongoing activities of SLUBGH, CBC in connection with different ecosystem that are depicted in SLUBGH. Students observed different food web, Ecosystem & Glass House. Students were given Worksheet at the end of presentation & tour in order to assess, how effectively they have learnt.



Visit of Telecommunication Engineer, Japan



“At the beginning of May, I visited Pakistan to meet my friends, Dr. Raza Bhatti. This was my first visit to Pakistan. But when I arrived at Sukkur airport, he came to pick me up regardless of early in the morning, 7 a.m. It made me so relaxed.

On the first day, we went to Mohen-jo-Daro. It was such a hot day that I couldn't stay outside so long, however I was very overwhelmed at the vast area and the highly civilized city, such a dust shoot system or an orbit shaped well. I felt people in Indus (Valley civilization era had the similar quality of life as that of us today.

On the Second day, I went two campuses, Khairpur & Shikarpur, to make a presentation about a mobile phone market in Japan. The first impression of Shikarpur campus was that it had a lot of spark. When I started to talk about my theme, I felt that students in Shikarpur were interested in

mobile market in Japan. I thought that the long lasting Q&S session after my presentation showed it. Then I moved to Khairpur campus. The impression of Khairpur campus was that It was clean and calm, and suitable for studying. So I felt proud of having a chance to make a presentation about my profession and Japan itself. In Khairpur, There were lots of question about technology behind mobile phone business in Japan, for example the technology of “*Osaifu-Keitai*” mobile e-wallet in mobile phone. I think It was one of beneficial functions in Japanese mobile market.

During my stay in Pakistan, I felt everywhere in Pakistan was exciting and I felt everyone was so kind and open-minded. I enjoyed the stay fully due to all of them. I would like to say thanks to Dr. Raza Bhatti and Arslan and all I met there”. Said Mr. Toshiki Ono, Japan.

18th May The Plant Conservation Day

Albizia lebbeck is uprooted



Thunderstorm damage on 17th May



Allamanda cathartica is uprooted

Plants are the asset of all life on Earth, they control our climate, purify our water, help create rich soils and protect those soils from erosion. Plants, in their miraculous diversity, are also an indispensable resource for human survival and well-being, provide food, medicine, shelter, and clothing, and are a source of interminable beauty. Inappropriately, the plants that are vital to people and the planet are facing serious threats around the world. There are voluminous methods; we can help conserve plants for the planet. By keeping this into Consideration, Plant Conservation Day was started in 2001 by the Association of Zoological Horticulture (AZH), and has been actively celebrated by zoos throughout the United States since then. In 2006, Botanic Gardens Conservation International (BGCI) partnered with AZH to help expand Plant Conservation Day celebrations to botanic gardens and develop resources to make celebrating easy and fun for any organization, group, or individual interested in conserving the world's plants.



Likewise Centre for Biodiversity & Conservation celebrated plant Conservation Day as few Tree species were uprooted & damaged in different parts of CBC due to Thunder Storm of 17 May. In Indus Arboretum few trees & Creepers are uprooted due to thunderstorm and heavy downpour includes *Moringa oleifera*, *Parkinsonia aculeata*, *Allamanda cathartica* and *Albizia lebbeck*. Horticulture Officer CBC, & his team of Gardner's conserves damaged plants through these ways.

Conservation Techniques: Connect the stakes to the trunks with flexible straps designed for support the tree. Allow for movement in the tree for strong growth. Remove the stakes and lines after one growing season, or they will inhibit trunk development. Applying the correct fertilizer at planting helps ensure healthy trees. Do proper irrigating the trees species for better results.

22 May, International Day for Biological Diversity in Collaboration with Sindh Forests Department



22 May 2012 INTERNATIONAL DAY FOR BIOLOGICAL DIVERSITY Marine Biodiversity



2012
INTERNATIONAL YEAR OF
SUSTAINABLE
ENERGY FOR ALL



The United Nations proclaimed May 22, The International Day for Biological Diversity (IDB) to increase understanding and awareness of biodiversity issues. Events celebrating IDB take place worldwide and this is its 11th year. The theme for this year is Marine Biodiversity. The oceans cover 70% of the planet's surface area, and marine and coastal environments contain diverse habitats that support an abundance of marine life. Life in our seas produces a third of the oxygen that we breathe, offers a valuable source of protein and moderates global climatic change. Some examples of marine and coastal habitats include mangrove forests; coral reefs; sea grass beds; estuaries in coastal areas; hydrothermal vents; and seamounts and soft sediments on the ocean floor a few kilometers below the surface. The survival of marine and coastal ecosystems and biodiversity is essential to the nutritional, spiritual, societal and religious well-being of many coastal communities. But even for the many millions of people who may not think that they have any strong reliance on the ocean, marine ecosystems and wildlife provide all kinds of benefits. Without life in the ocean, there would be no life on Earth.

Centre for Biodiversity & Conservation also celebrate, International Day for Biological Diversity with PreStep Organisation. The USAID funded Teacher Education Project (Pre-STEP) supporting Pakistan to improve the quality of

basic education through better-prepared teachers. As part of the U.S. Government's long-term commitment to assist the Government of Pakistan strengthen the education sector, Pre-STEP is working towards institutionalizing reforms in pre-service teacher education. Pre-STEP directly impacts new and practicing teachers by helping them gain revised and upgraded teaching qualifications through the newly introduced four-year Bachelor's Degree in Education (B.Ed.) and a two-year Associate Degree in Education (ADE). Pre-STEP's strategy entails working closely with the Higher Education Commission (HEC), Provincial Departments of Education and teacher training institutes across the country. Pre-STEP builds upon existing structures and directly supports 15 Pakistani universities and 75 teacher colleges in order to raise the level of academic standards in teacher education programs. The program's assistance is tailored to support the priorities and plans for pre-service teacher education as determined by each province by providing technical assistance in developing and strengthening systems, policies and standards that will ensure better management of teacher education programs.

Group of Pre-Step members were included, Mr. Anjum Pervaiz, Mr. Syed Tahir Hussain, Dr. Hina Kazmi & Principal Khairpur Elementary College accompanied with 60 students & faculty Staff members.

Urban Community Incomplete without Parks



Park or community centers or jumping recreation centers are public locations where members of a community tend to gather for group activities, social support, public information, and other purposes. Bilawal Bhutto Park, Khairpur is source of Recreation for citizen of Khairpur, as Park and recreation areas are economic engines that improve the quality of life and make communities livable and desirable for businesses and homeowners. Parks provide vital green space in a fast-developing landscape, and provide vegetative buffers to construction and development, thus reducing the effects of sprawl. Parks preserve critical wildlife habitat. As our nation develops and our rural, agricultural and forest landscape is being lost, open space and wildlife habitats are disappearing at an alarming rate. The connected network of local, regional, state and national parks across our country provide permanently protected wildlife habitat corridors for thousands of indigenous and migratory wildlife species. Parks provide a meeting place where community members can develop social ties, and where healthy behavior is modeled and admired. People gather to share experiences, socialize and to build community bonds in common green spaces. BBZP received 8000 visitors in its arms in the Month of May, 2012.



Dr. Muhammad Afzal Chaudhry, Environment Specialist & Ex-Chief Conservator of Forests (Punjab) visited the Center for Biodiversity & Conservator, Shah Abdul Latif University, Khairpur (Mir's), Sindh-Pakistan.



Eco-Cultural Tourism (ECT): MoU between Centre for Biodiversity & Conservation, SALU & Air Academy Pakistan (AAP)

Centre for Biodiversity and Conservation-SALU envisaged to develop Eco-cultural tourism. An idea is to blend ecological and cultural aspects of a landscape to create tourists site in the area of upper Sindh. In this regard, an archeology department and CBC of Shah Abdul Latif university has been established Information Cell at CBC-SALU. The planning, development and sustainable maintenance will be key elements while involving local communities of this area. In this regard, Memorandum of understanding is underway to be signed between Dr. G. Raza Bhatti, Director Centre for Biodiversity & Conservation, SALU & Major Kamran SHAMSHAD (Retired), Chief Business Development Officer, Air Academy Pakistan. Likewise, the CBC would be please to accommodate such other organizations. This joint venture would explore the beauty of nature, culture and environment of this region.



Plant expedition of Tharparkar desert



Dr. Rahmatullah Qureshi, Associate Professor of Botany, Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi spent 10 days in the field areas of Tharparkar District, Sindh for inventorying of the flora during 11 to 21 April, 2012. Different areas of desert such as Mithi, Chachro, Islamkot, Nagarparkar and Runn of Kuchh were visited and a total 262 plant species were recorded. Different microhabitats, life form classes and topographical features along with amplitude of plant species were also determined. Mr. Kaleem Ullah (M. Phil. Scholar) was assisted to collect plant specimens and field data. This plant expedition was a part of Thar coal project and sponsored by Aleem Conservation Consultants.

Study Trips



Dr. Rahmatullah Qureshi, Associate Professor of Botany, Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi conducted two days study trips for the collection of ethnobotanical and phytosociological data along with plant specimens from Soan valley and Thandiani. Forty student of M.Sc./M. Phil. and PhD classes participated in these field trips. This plant expedition was a part of their courses i.e. Phytogeography (BOT-715) and Applied Ethnobotany (BOT-737). All students actively participated in practical learning about the collection methods of ethnobotanical data, plant specimens as well as phytogeographical patterns of various different forest types, life form classification and correlation of existing vegetation along the elevation gradients. Senior research scholars namely Ms. Humaira Shaheen (PhD), Mr. Gul Rahim (PhD), Mr. Wasim Ahmad (PhD) and Mr. Kaleem Ullah (M. Phil.) co-supervised these trips.

Pak-China Collaborative Research Projects discussed: Chinese scientists delegation visits PSF, PMNH



A group photo of Chinese Scientists delegation with Pakistan Science Foundation (PSF) Chairman Prof. Dr. Manzoor H. Soomro along with his team after a meeting with the delegation at PSF

Pakistan Science Foundation (PSF) Chairman Prof. Dr. Manzoor H. Soomro along with his team holds a meeting with Chinese Scientists delegation at PSF

A Chinese delegation comprising scientists and researchers visited Pakistan Science Foundation (PSF) here the other day.

The delegation visited Pakistan under a collaborative project titled “Molecular Characterization, Mass Production and Formulation of Entomopathogenic Nematodes” between National Nematode Research Centre (NNRC), University of Karachi and Guangdong Entomological Institute, Guangzhou, China. The Project was approved under the 17th Protocol of S&T between Pakistan and China.

During a meeting with the delegation headed by Prof. Dr. Han Richou, PSF Chairman Prof. Dr. Manzoor H. Soomro briefed the guests about mandate, functions, programs, achievements and future plans of the Foundation. PSF Member Science Dr. Khalil Ibupoto, Member Finance Mr. Riazul Islam, Chief Scientific Officer Ms. Farhat Rajpar and Director Planning and Development Ms. Durkhshanda Kokab were present in the meeting.

Dr. Soomro told the delegation that PSF provides funding for research activities and actively engaged in Commercialization of Research & Popularization of Science through different means including science caravans, popular lectures, national and international science exhibitions, science competitions among students, support to scientists in research and attending national and international science events, teachers training workshops on inquiry-based science education and celebrations of international science related days etc.

The Chairman said PSF provides funds for strengthening of science laboratories and provide travel grants to research scholars.

Dr. Richou appreciated numerous activities being undertaken by PSF. He said the Foundation is a powerful organization.

The delegation also visited Pakistan Museum of Natural History (PMNH), an auxiliary organization of PSF.

PMNH Director General (DG) Dr. Syed Azhar Hasan along with the Directors of PMNH scientific divisions received the delegation. The DG briefed the guests about PMNH mandate, functions, activities, achievements and future plans.

The Chinese delegation took a round of the PMNH display galleries and evinced their keen interest in exhibits of Pakistan’s natural resources including plants, animals, fossils, minerals, rocks & gemstones etc.

The delegation appreciated the PMNH research and public education activities. The delegation also discussed the possibilities of Guangdong Entomological Institute, Guangzhou, China’s collaborative projects with PMNH.

It is pertinent to mention that under the framework of Agreement on Scientific and Technological Cooperation-1976, Pak-China Joint Committee in its meeting held in Beijing, China, on November 4, 2011 signed the Protocol of 17th Session. Two projects proposals of PSF/PMNH were approved for implementation. The projects include (i) Molecular Characterization, Mass Production and Formulation of Entomopathogenic Nematodes by the National Nematological Research Centre (NNRC), University of Karachi in collaboration with Guangdong Entomological Institute, Guangzhou, China (ii) Study Visit of Scientists from Pakistan Museum of Natural History (PMNH), Pakistan Science Foundation, to Beijing Museum of Natural History, Beijing China.

Failure of Jatropha Cultivation in Sindh

Muhammad Zayauddin-Entomologist - CBC



Jatropha planted in Karachi

In early 2009 President of Pakistan had setup a committee to formulate in a proposal for 50% reduction in diesel import by alternate source of energy. In pursuit of it Alternate Energy Development Board started working on different options viz: wind, solar and bio-energy.

Bioenergy can be produced from organic matter or biomass. Biofuel being an energy carrier can be derived from biomass. The biomass used for ethanol production includes sugar and biodiesel, oils are utilized.

In European Union almost 47% of vegetable oil produced is generating crop is continued over the last several years and almost 100 plant species bearing seed with oil contents were evaluated for production of biodiesel. Among them some promising ones for production of biodiesel are Jatropha curcas, castor and Pogamia pinnate. However, for biodiesel production in the country Jatropha was selected for large scale cultivation on scaled marginal land.

Here it would be proper to mention that Jatropha curcas was an exotic plant species for Pakistan and for introduction of any plant or plant materials in the country it is necessary that prior to its entry all plant quarantine requirements are fulfilled under Pakistan Plant Quarantine 1976. But the irony of the fact is that violating Plant Quarantine Rule of the country tens of Jatropha seeds were imported from abroad firstly by Pakistan State Oil and later on under permission of Plant Protection Department, Government of Pakistan by several NGOs and private parties.

Jatropha is a small shrub measuring 3 to 5 meters in height. The fruits are bi-lobed green capsule in cluster of 5 to 10, which on ripening turns yellow or dark color. The plant can be grown anywhere, even on gravel, sandy, saline soil.

As per Alternate Energy Development Board, plantation of Jatropha had been planned on the barren land alongside coastal belt of Sindh and Baluchistan where sweet water required for irrigation of Jatropha was not available.

However, since there were no government controls on the cultivation of Jatropha its cultivation become unbridle. Innocent growers were persuaded to grow Jatropha in cotton belt even, by some newly emerged so called bio-diesel plant seed companies. Poor growers were lured that income with Jatropha seed would be double than that of cotton within 2 to 3 years of plantation and it would continue for over a decade Jatropha being a perennial plant. They also assured

purchase of seed from the door step of the grower, of acres both in lower and upper Sindh.

Being an ex-entomologist of the Plant Protection Department having advance training in the discipline of Plant Quarantine in Australia. I felt in necessary to keep exotic Jatropha plantation under regular surveillance as a post entry quarantine measures in order to date of susceptibility of this exotic plant species to any endemic (local) insect pests and diseases.



In early 2009 regular surveillance of Jatropha in a field at Malir Karachi indicated high susceptibility of this exotic plant to mealy bug species which is also a potent pest of cotton crop. Since large scale cultivation of Jatropha in cotton belt could have served as a permanent alternate host rather nursery of mealy bug posing a serious threat to our strategic cotton crop the matter was brought in the notice of Federal Ministry of Food and Agriculture, Alternate Energy Development Board, Agriculture Development Commissioner, PARC and all the provincial stake holders by this scribe vide letter Dated: 20th April 2009.

Next year in 2010 a prominent progressive grower cum politician and now 8th Pir Pagara Syed Sibghatullah Shah who had cultivated Jatropha on area of about 5 acres at his farm in riverine belt of Khairpur allowed me to bring his Jatropha cultivation under regular surveillance in public interest.

To my surprise here under the climatic condition of upper Sindh Jatropha escaped mealy bug infestation but several damaged by mite pest which also attack cotton crop.



Here it would be relevant to mention that Jatropha being a deciduous plant shed its leaves every year during season but severe mite infestation virtually denuded the entire plant at a stage immature seeds affected the yield of the crop. This very phenomenon discouraged grower to the extent the entire plantation was removed from the field.

Suggestions: -

Since Jatropha plants have been found susceptible to mealy bug and mite pests and did not give cost effective production under our climatic condition it is imperative that cultivation of this exotic crop is banned in the cotton belt of Sindh and Punjab.

ASIAN KOEL



The Asian Koel (*Eudynamys scolopaceus*) is a member of the cuckoo order of birds, the Cuculiformes. It is found in South Asia, China, and Southeast Asia. It forms a super species with the closely related Black-billed and Pacific Koels which are sometimes treated as subspecies. The Asian Koel is a brood parasite that lays its eggs in the nests of crows and other hosts, who raise its young. They are unusual among the cuckoos in being largely frugivorous as adults. The name koel is echoic in origin with several language variants and the bird is a widely used symbol in Indian poetry.

Temperature & Humidity Line Graph for the months of May 2010, 2011 & 2012

