



NEWSLETTER

Pakistan Forest Institute, Peshawar



Forestry, Environment and Wildlife Department Government of Khyber Pakhtunkhwa

Consolidated Issue: (October-December, 2016 & Jan-March, 2017)

Chief Patron: Hakim Shah
Director General

Editor: Mian Muhammad Shafiq
Extension Specialist

Ayaz Khan Marwat
(Central Silviculturist)

ROOT SYSTEM OF EUCLAYPTUS CAMALDULENSIS



View of selected *Eucalyptus* tree

Almighty Allah has created diverse forms of nature. The Lord of the universe hasn't created anything without a purpose but sometimes because of our limited knowledge we label gifted things as worthless. One should not draw conclusions without proven scientific verifications and highlight self regarded dark sides associated with something of natural significance. People consider and take the autumn as most beautiful season even after seeing the things dying in it. In other words the reality is the true picture of situation while perception is the way in which individuals analyze and interpret the situation based on their own outlook.

Eucalyptus, which is often criticized for its uselessness, holds much worth. There are more than seven hundred species of *eucalyptus* ranging from shrubs to the tallest of trees and are widespread in Australia. These are not even tolerant to severe moisture stress and low soil fertility but also resistant to browsing by animals or attack by fire and insects. Plants belonging to this genus are very productive because of their fast growth rate and shorter rotations. In Pakistan it was introduced during the time of the British Rule after initial successful trials but concentrated research on performance of its species was carried out at Pakistan Forest Institute (PFI) by eminent forest officers and researchers when the organization established at Peshawar.

In order to study its root system, PFI recently conducted a research under the supervision of Director Forestry Research, one tree of *Eucalyptus camaldulensis* tree was selected in Silva Research Garden, Pakistan Forest Institute, Peshawar. The tree was standing in irrigated land, having age of 18 years, diameter of 15 inches and height of 81 feet.

The study reveals that the largest lateral roots which started moving horizontally was measured and found to be 56 feet in length followed by of 47 feet, 30 feet and another one of 28 feet respectively. Where the lateral roots which were penetrating downwards were measured and found to be of 16 feet in length. No proper taproot was found like that of other trees where they have a prominent taproot. However the length of the taproot measured and found to be of 12 feet.

The result of this study shows that the root system of *eucalyptus* is mainly spreading laterally (horizontal) and it moves underneath the ground surface taking water and nutrients coming from the surface above. The taproot remains weak and small in length, does not penetrate too deep in the ground to harvest the ground water commonly available at depths of more than 40-50 feet.



Root System of *Eucalyptus* tree

FOREST EDUCATION DIVISION

Dr. Mamoona Wali Muhammad
Director, Forest Education Division

Various activities and initiatives were under taken in the Forest Education Division of PFI during the months of October December 2016 & Jan-March, 2017.

Admissions

The applications were invited for admissions in M.Sc and B.Sc Forestry (2016-2018) and BS 16-20 sessions as per schedule.

The admission committees included Dr. Mamoona Wali Muhammad, Chairperson, Mr. Atif Majeed, Deputy Director Technical & Mr Ahmad Zamir, LIF. A total of 56 students were admitted, 14, 25 & 17 in M.Sc and B.Sc Forestry (2016-2018) and BS 16-20 session respectively.

Study Tours

Hill Tour

The students of M.Sc and B.Sc 2014-16 session undertook the Forest Types Tour of Moist & Dry Temperature Forests of Neelum Valley AJK in October, 2016. Dr. Mamoona Wali Muhammad, APOF and Sohaib Ahmad LIF accompanied the classes.

They studied Forest produce movement control procedures on forest check post. The students also visited archaeological sites, Ancient Sharda University for ecological study of plants.

The class visited on site tube nursery at Machal and visited Arangkeil to study Mixed Coniferous Forests, their species composition and management. The students observed Dry Temperate Forest & Pastures Management and Ecotourism potential in AJK. The status of current management plans in Moist / Dry Temperate Forest Types of AJK was also briefed to students. The students also visited Tront Fish Hatchery, Taubutt. Studied Demarcation procedures management practice in AJK.

The senior Forest Officers including Dr. Shafiq ur Rehman, CCF, Mr. Irtaza Qureshi, DFO Working Plan, Mr. Mazhar Naqvi, DFO Demarcation, Sardar Akram, DFO Sharda, Mr. Samar Iqbal, DFO Athmoqam, Mr. G.M Butt, DFO Karen attended the classes, delivered the lectures and accompanied in the field.

Results

The results of M.Sc & B.Sc Forestry session (2014-16) 4th term Annual Examination were declared in November 2016. The results of M.Sc Forestry (2014-16) 1st Term Supplementary, M.Sc & B.Sc Forestry (2015-17) 1st Term Annual, M.Sc & B.Sc Forestry (2015-17) 5th Term Annual

were declared by University of Peshawar in December 2016.

Special lectures

The special lecture programme was also continued in these months. The lectures on "Energy Plantation & Biofuels" were delivered by Ms. Ghazala Raza, Consultant UNIDO to the students of BS Forestry 13-17

Orientation tour of M.Sc & B.Sc

Imparting field knowledge to forestry students beside the theoretical knowledge is a bright aspect of studies at Pakistan Forest Institute. For this purpose field tours are arranged to various ecological zones of Pakistan. The very first tour that forestry students conduct after joining PFI Orientation Tour. In this tour students are oriented to different type of natural forests as well as artificial forests (irrigated plantations) and observe the practical application of forestry in different fields. Orientation tour of B. Sc and M.Sc forestry session 2016-18 was conducted from 23-02-2017 to 04-03-2017 in the supervision of Dr. Mamoona Wali (APoF) and Mr. Sohaib Ahmed (LIF). On journey day lectures about linear plantation, BTAP, Selection of species for BTAP were delivered in detail. At first day the students were taken to Forest complex and Jallo Park Lahore there detail lecture on basic concepts of



forestry was delivered by Chief Conservator Lahore circle. Director General, PFI, Mr. Hakeem Shah accompanied the class. On second day of tour students were taken to Changa Manga Irrigated Plantation, where detail lecture about the irrigated plantation, its layout was delivered by Chief Conservator Forests. On third day the camp was shifted to Jhelum. On the way to Jhelum students were briefed about Bella plantation at Thatta Faqeer Wala and the next day camp was shifted to Islamabad, on the way to Islamabad, at Jhelum, students visited the areas where Dry Zone Aforestation techniques were applied, along with Conservator Forests and Divisional Forest Officer. On fifth day the students were briefed about variation in vegetation due to altitudinal zonation at Murree. Divisional Forest Officer and his team delivered the lecture. On sixth day, IGF, Ministry of Climate Change, Government of Pakistan delivered lectures on forest types, biodiversity, energy and park management. On seventh day camp was shifted to Shinkiari. During stay at Shinkiari students visited the Billion Tree Aforestation project areas.

An Orientation tour was arranged for B.Sc Forestry session (2016-18) from 3rd February, 2017 to 13th February, 2017. Mr. Ahmad Zamir (LIF) accompanied the class as tour incharge. Director, Forest Education Division Ghayyas Ahmad joined the class at Islamabad.

On first day the class visited Field Station Shinkiari where the students were briefed by Mr. Asim Kareem (RFO) Station Incharge, on the going research activities of PFI. Later on SDFO Shinkiari Hussain Turi and SDFO Wildlife Muhammad Munsif briefed the class on the intervention BTAP such as youth nursery, planting areas, bad areas stabilization and closures.



Students with DFO Nowshera after BTAP planting

On second day it was a journey day enroute students visit the FDC timber depot at Gohar Abad where the class was briefed

by DFM marketing on the extrication, sale and marketing of timber.



On fourth day class was briefed by Rizwan Mahboob, PD, Green Pakistan Islamabad. Later on students visited Margalla Hills National Park CDA Islamabad. Where the student were briefed by Mian Muhammad Shafique, ES and Education Office CDA Ms. Jaweria Mahboob.

On fifth day class visited Changa Manga irrigated plantation. DFO briefed the students on the layout of irrigated plantation. Students participated in the inaugural ceremony of Green Pakistan Project by planting various types of indigenous tree species.

On sixth day classes visited Jallo Park, Jallo Botanical Garden and Lahore Zoo to study the management of Jallo Forest Park and Lahore Zoo.

On 10th February, 2017 it was journey day from Lahore to Jhelum enroute class visited Malik Sports Industry to study

manufacturing of different wood based sport items such as bat and hokey.

On 11th February, 2017 students visited Bela Forest at Berolli. DFO Jhelum Mr. Sajjad Qadoos briefed the students on Bela Forest and Dry Zone Afforestation Techniques.



A TRAINING COURSE ON "WOOD IDENTIFICATION TECHNIQUES AND ITS ROLE IN WOOD BASED INDUSTRIES" 19-23 DECEMBER, 2016

Tanvir Hussain
Assistant Wood Technologist

A short Training Course was arranged on Wood Identification Techniques and its Role in Wood Based Industries by Forest Products Research Division, Pakistan Forest Institute, Peshawar from 19-23 December, 2016.

Wood is a natural product that because of its several advantages like easy to harvest, easy to work, having attractive figure etc., is used for many purposes such as furniture, doors and windows, paneling and flooring, sports goods, railway sleepers, cross-arms, boats and ships, crates and packing cases, tool handles, agricultural implements, match sticks, particleboard, fiberboard (MDF),

plywood, pulp and paper etc. Specific woods are used for a certain type of product due to their properties required for that product. Therefore, it is important to know about the type and properties of wood before its utilization for any purpose. Further, the quality of a wood can be improved through careful processing, proper seasoning and preservative treatment to enhance its service life. On the other hand, inferior grade or low value woods can be used for manufacturing of wood based products. Therefore, technical know how about the proper selection, processing techniques and utilization of wood is very important for manufacturing of qualitative products.

BIO-ENGINEERING/LAND SLIDE STABILIZATION TECHNIQUES

A short training course on “Bio-engineering/land slide stabilization techniques” was arranged at Pakistan Forest Institute (PFI), Peshawar from 22-26 December, 2016 under the project titled “Integrated Forestry Research Initiative & Computerization of Important Pakistani Timbers” (IFRI&CIPT)

at PFI, Peshawar. Dr. Bashir Hussain Shah, a renowned expert of bioengineering was the resource person of the course. Twenty five (25) nominees from all Pakistan of different departments were trained.



Delivering lecture



Certificate Distribution Ceremony

PLANT DISTRIBUTION CEREMONEY UNDER PROJECT ESTABLISHMENT OF PFI HIGH MOUNTAIN FORESTRY AND BIODIVERSITY RESEARCH AND TRAINING STATION KALAM

Ayaz Marwat
Central Silviculturist

Distribution of three thousand five hundred plants of walnut and fifteen hundred plants of chalgoza were distributed among the local people of Kalam through Silviculture

Branch under project titled” Establishment of PFI High Mountain Forestry and Biodiversity Research & Training Station Kalam.”



Walnut and chalgoza Pine Plants ready for distribution



Plants distribution ceremony

NATIONAL GREEN DAY



Tree planted by the Chief Guest on National Green Day

The Federal Government and all the provinces including AJK & GB celebrated 9th February as a National Green Day. The theme of this day was "Going back to Indigenous Local Tree Species". In this regard Pakistan Forest Institute organized English and Urdu Speech completion among the Forestry Students. The winners were awarded souvenirs by the Director General, Pakistan Forest Institute. Competition was followed by the walk and tree plantation. The Chief Guest was the Deputy Secretary, Forestry, Environment and Wildlife Department, Government of Khyber Pakhtunkhwa. In his inaugural address the Chief Guest emphasized on the plantation of the trees for the better environment. Director General, PFI also put light on the activities of the PFI in the conservation and afforestation.



Walk on National Green Day



Planting on National Green Day

FOREST GENETICS BRANCH ACTIVITIES

Bilal Ahmad
Forest Geneticist



To improve the chilghoza pine a grafting study of 400 plants under the EPFIHMR&TFS, Kalam Project is in progress at Kalam. The main objective is to reduce the vegetative growth period to get early fruiting. The 200 root stocks were grafted upon while using scions obtained from Anakar Beat, Kalam. The stock is being maintained at Kalam Field Station. The remaining stock will be grafted in the u coming Spring-2017.

Under the component, "Studies on Seed Quality for Tree Improvement" of PFRE Project seed is being collected from plus trees of various species from PFI and various relevant zones. This includes particularly Eucalyptus species, dry zone species especially Acacias and

conifers. The collected seed will be utilized in various research activities at PFI while the surplus will be offered for sale.



The Director Biodiversity Research Div. has specially emphasized on the conservation and improvement of the tree species having threats due to various seed issues. Already signed MoU between PFI and IBGE, The University of Agriculture Peshawar, has been revived and as a first step two short training courses for the Forestry researchers will be arranged in the February and April 2017. While using the laboratory facilities at IBGE the micropropagation studies of *Cedrus deodara*, *Zizyphus mauritiana* and *Olea sp.* are in progress.



Dr. Muhammad Ayaz battled with Parkinson's disease for over 20 years and managed to live with severe impairment of body movements. His deteriorating health bound him only to indoor activities in 2013 and later developed wearing off symptoms, including shortness of breath. Eventually he passed away on 25th November, 2016. Dr. Ayaz left behind a widow, two sons and a daughter. His eldest son and daughter are settled in Canada, while youngest son is based in Islamabad and works with United Nations.

Dr. Muhammad Ayaz was born in town of Nawanshehr, district Abbottabad in 1947. He completed his early education from Government High School, Nawanshehr and then did Masters in Botany from University of Peshawar in 1966. During his education, he was also a good hockey player and participated in several sports tournaments at college and University levels. He joined Pakistan Forest Institute in 1967 as 'Research Assistant' and was later promoted as 'Wood Technologist' in 1972. Meanwhile in 1979, he completed his Masters in Forestry and secured Gold Medal.

In 1982, Muhammad Ayaz was promoted as 'Logging Officer' and later in 1986, he completed a Ph. D degree from Ludwig-Maximilian University of Munich, Germany in discipline of

Forest Engineering. In 2000, he was promoted as Deputy Director (Technical) at Pakistan Forest Institute and also held additional charge of Director, Forestry Research Division.

Dr. Ayaz is author of over 73 publications in disciplines of Forest Products, Wood Technology, Forest Engineering, Biodiversity and Climate Change. Several of his publications have been published in international scientific journals of repute. He also represented Pakistan in several international fora including Conference of Parties under Biodiversity and Climate Change Conventions. Dr. Ayaz also attended several international training and workshops in 5 Continents of the World. He also taught subjects of Forest Utilization and Forest Engineering to bachelor and Master Students of Forestry.

In 2003, he took pre-mature retirement from PFI due to his health condition, but served with World Bank funded Protected Areas Management Project in Muzaffarabad with WWF Pakistan as 'Park Planner'. He discontinued his services in early 2006 and got settled in his native town and remained engaged in social activities and community support work for rest of his life.