



Newsletter

Pakistan Forest Institute, Peshawar



Chief Patron: Syed Said Badshah Bukhari
Director General

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WORLD BIO-DIVERSITY DAY

Main Muhammad Shafiq
Deputy Conservator Wildlife

Every year 22nd May is observed as Bio-diversity day. To celebrate this event a function was arranged at Pakistan Forest Institute with the collaboration of Environmental Protection Agency, Wildlife Department, Environment Division, Government of Khyber Pakhtunkhwa, and Forest Education Division, Pakistan Forest Institute, Peshawar.

The chief guest of the function was Mr. Wajid Ali Khan Minister for Environment, Khyber Pakhtunkhwa. The key guest speakers of the programme were Mr. Ashiq Ahmad Khan, Advisor, Ministry of Environment, Government of Pakistan, Dr. Muhammad Mumtaz Malik, Ex-Chief Conservator Wildlife, Khyber Pakhtunkhwa, Dr. Alamgir Gandapur, Project Director, Carbon Sequestration Project, Khyber Pakhtunkhwa.

Dr. Bashir Khan, Director General, Environmental Protection Agency welcomed the participants and highlighted the importance of programme. The guest speakers highlighted the importance of the day. Mr. Ashiq Ahmad Khan talked about bio-diversity and its linkages. Dr. Mumtaz Malik spoke about the bio-diversity of Khyber Pakhtunkhwa and Mr. Alamgir Gandapur briefed about forest bio-diversity.

The students of Zarif Memorial School presented a tableau about protection of Environment. The students of M.Sc Forestry of Pakistan Forest Institute delivered speeches on the importance of bio-diversity.

The chief guest, in his speech, emphasized that all stakeholder should play their role in the conservation of bio-diversity. He awarded prizes and certificates to the winners and participants of the debate competition.

At the end, Syed Said Badshah Bukhari, Director General PFI, in his concluding remarks, thanked the Honourable Minister, speakers and



Honourable Minister of Environment Mr. Wajid Ali Khan with the sponsors and organizers of the programme

participants of the programme and appreciated the efforts of the organizers for arranging the programme and presented PFI Shield to Honourable Minister



Audience of the Biodiversity Day



Honourable Minister for Environment, KPK, addressing the gathering



Presentation of PFI Shield



Director General, PFI delivering vote of thanks

CLIMATE CHANGE IN PESHAWAR

Syed Said Badshah Bukhari
DG, PFI
and Ghulam Ali Bajwa
Coordinator Sericulture

Where are the songs of Spring?
Ay, where are they?
Think not of them, thou hast thy music too,-
While barrèd clouds bloom the soft-dying
day
And touch the stubble-plains with rosy hue
John Keats (1795-1821)

The pattern of changes in season and associated blooms and songs of birds have beautifully been described in the above couplets, but this pattern is no more predictable. Seasons will appear with different calendar, duration and intensity. And trend will drastically affect the anthropogenic and biotic activities, mostly in adverse direction. The scientific findings show that earth's climate is changing even faster than previously assumed. A study conducted by the Pakistan Forest Institute showed an increase of 0.85°C (0.77°C-0.92°C) in Peshawar during 1985-2009; 0.034°C increase per annum. This high level of temperature increase indicates phenomenon of island of heat which has previously been reported in Karachi and Lahore. Apart from temperature rising, the study revealed a change in seasonal rhythm. The spring season started 15.6 days earlier as well as shortened by 17.8 days. The extreme summer season was extended to five months (May-September) with $\geq 35^{\circ}\text{C}$ mean maximum temperature (Fig. 1).

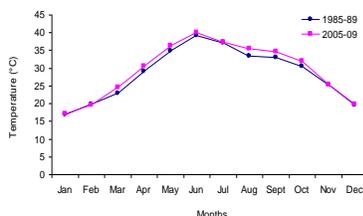


Fig. 1. Pattern of temperature change during 1985 to 2009

The study further showed a 30% decrease in rainfall (from 39.6 mm to 27.7 mm per annum) during the study period with extended drought periods. The climate was shifted towards dry tropical type with eight months receiving less than 25 mm rainfall. The rainfall was reduced drastically during primary plant growth periods, viz. the spring and late summer seasons. On the other hand, evaporation and wind increased by 1.59 times and 1.40 times, respectively. The evaporation was increased from 4.42 mm to 7.05 mm per 24 h. Similarly mean wind speed at 8' height increased from 21.82 km/24 h to 33.81 km/24 h. Moreover, the findings indicated a significant feedback mechanism among

temperature, rainfall and evaporation. There was a negative correlation between temperature and rainfall ($r^2=-0.49$), while the correlation was positive between temperature and evaporation ($r^2=0.78$). The range of variation and coefficient of variation of temperature, rainfall, evaporation and wind showed a great volatility especially in the spring and autumn seasons.

These findings forecast a likely increase of 4.13°C in temperature by the end of 21st century vis-à-vis reduced rainfall and extended drought periods. Apart from physical changes, this newly emerging climate scenario predicts multifaceted implications on vegetative and reproductive growth of plants, as well as on depending habitat characteristics. The increased temperature with low rainfall warrants more water for longer period thus indicating further pressure on already critically scarce water resources. This study, in addition to biologists and ecologists, provides guidelines to policy makers for adaptation of mitigation measures. The detailed results are being published in a scientific journal.

The projected climate scenario in Peshawar urges to undertake mitigation and adaptation measures to reduce adverse effects of climate change. There are several sectors, such as, forestry, agriculture, energy, geo-engineering, industry, town planning, transport, etc. where adaptive measures have potential to mitigate warming impacts by reducing levels of greenhouse gases (GHG). Apart from arresting vehicular emissions, the social and agro-forestry is the most viable and economical field for remediation of GHG through carbon sequestration in urban and surrounding areas. Afforestation/regeneration programmes, therefore, should be launched on strategic sites as well as masses be encouraged to participate in campaign of making city green.

NEWS OF FOREST EDUCATION

Hakim Shah

Director Forest Education Division

The process of improvement in the Forest Education Division continued during the reported period. Many activities were undertaken including conduct of Forest Management and Orientation tours of M.Sc and B.Sc forestry classless, Curriculum revision of BS Forestry (4yrs), and M.Sc Forestry, conducting meetings of the Board of Studies in Forestry, regularization in examination system, and extra Curricular activities viz: celebration of Special Days, organizing Special Lecture Programmes and student excursion tours as given below.

TOURS

Forest Management Tour

The students of M.Sc. Forestry 2008-2010 course undertook the Forest Management tour to Punjab and Sindh from 29-3-2010 to 15-4-2010. In Punjab, they visited Jhelum, Sialkot, Changa Manga, Bahawalpur, Dera Ghazi Khan and studied the management of scrub forests, Sports goods industries, Irrigated plantations, Lal Sohanra National Park and the rangelands of Cholistan and D.G. Khan respectively. In Sindh, students visited Sukkur, Hyderabad, Thatta and Karachi and studied the management of Riverain forests, 'Hurri' plantation, Coconut plantation and Mangrove forests. The Director General, Pakistan Forest Institute and Director Forest Education Division joined the classes in Hyderabad on 8-4-2010 and accompanied the students on field visits to 'Hurri' plantations and Mangrove forests.

Senior officers of the Punjab and Sindh Forest Departments especially Chief Conservator of Forests, Sindh personally conducted the field visits, delivered special lectures on practical forestry to students which were very beneficial for them and improved their learning. The support of both the forest departments was ideal and cooperative, and made the tour successful.



Director General, PFI, CCF Sindh and DFE with students at Hyderabad Sindh

Orientation Tour

Five days Orientation tour of B.Sc. & M.Sc. Forestry students Session 2009-11 was conducted from 20-24 April, 2010. Students visited Azakhel Botanical Garden, Khanpur Dam, Fatima Jinnah Park, Marghazar zoo, Marghalla National Park, Lake View Park, CDA nursery, Rawat Timber Depot of the AKLASC, Agricultural University Rawalpindi and Qarshi Industries at Hattar Industrial Estate during Orientation tour.



A briefing to Forestry students on forest vegetation at Margala National Park

Soil Science Excursion tour

A one day excursion tour of M.Sc and B.Sc session 2009-11 was conducted with the collaboration of Soil Survey of Pakistan to Charsadda and areas around Peshawar and students were briefed about soil property. Soil samples were also collected.

Field Engineering Demonstration tour

A one day Field Engineering practical demonstration tour of M.Sc and B.Sc Forestry session 2007-2009 was conducted to University of Engineering and Technology, Peshawar and Bestway Cement Factory, Hattar Industrial Estate, Haripur where special lectures on the subject were delivered and practical demonstration were made.

Curriculum Revision

Several curriculum revision meetings and a consultative workshop with all subject specialists at PFI and noted professionals were held to finalize the curriculum for BS Forestry (4yrs), MS & PhD Forestry courses.



Director General and Director Forest Education, PFI at HEC Curriculum meeting at Lahore

The Director General and Director Forest Education, PFI participated and presented the same at HEC final Curriculum meeting held at Lahore on 17-19 May, 2010. The revised Scheme of Study along with the course contents for BS Forestry (4yrs) at PFI was recommended with consensus and the same after fulfilling all needful /shortcomings have been submitted to HEC for final approval.

Board of Studies in Forestry

Two meetings of the Board of Studies in Forestry were held on April 07, 2010 and July 06, 2010 under the chair of Director Forest Education Division, PFI. The meetings were called upon to discuss the situation arising due to abolishment of supplementary examinations where number of candidates is less than 500, a decision of the University of Peshawar, regularization of B.Sc and M.Sc. Forestry examinations system and revision of syllabus for B.S. in Forestry.



Members of Board of Studies in Forestry

In the second meeting, Mr. Iftihar Hussain Khan, controller of examinations, University of Peshawar, participated on special invitation. The Board discussed all the three agenda items in detail and formulated recommendations.

Examinations and Results

Second Term and 3rd Term Examinations of M.Sc. & B.Sc. Forestry session 2007-2009 and 1st and 2nd term Examinations of M.Sc. & B.Sc. 2008-2010 were conducted and all the results were declared. The 1st term Examinations of M.Sc. and B.Sc 2009-2011 course were conducted and their result are declared.

Extra Curricular Activities:

Earth Day

The Earth Day was celebrated on 22nd April, 2010. Mr. Ashiq Ahmad Khan, Advisor to the Minister of Environment, was the Chief Guest. Forestry students delivered speeches on Earth Day. Syed Said Badshah Bukhari, Director General, PFI, Peshawar, and Mr. Hakim Shah, Director Forest Education Division spoke on the occasion and highlighted the importance of the Day.



Mr. Ashiq Ahmad Khan, Syed Said Badshah Bukhari and Mr. Hakim Shah during the Earth Day function

Biodiversity Speech Competition

Biodiversity Day speech competition was held on 18th May 2010 among forestry students of the Institute. The Chief Guest of the Day, Dr. Abdus Salam Khalis, Dean Faculty of English, Islamia College, Peshawar distributed trophies and prizes among winner students of the occasion.

Environment Day

Environment Day, 5th June, 2010 was celebrated at the Auditorium of PFI. All staff and forestry students of the Institute participated in the event. A skit on Environmental concerns was played by B.Sc forestry students to create the realization of the Day that development and environment should go hand in hand and sustainable development is the new paradigm.



Forestry Students in PFI Auditorium on Environment Day

A tableau was also presented by the students of PFI Model School to develop a sense of environmental responsibility. Urdu and English speech competition was held and prizes were distributed among the successful students. Moreover, the beautiful poems & selected environmental quotations were also presented. The Chief Guest of the event, Dr. Ayaz Khan Khattak, Director Biological Science Division highlighted the importance of the Day and emphasized the need to develop a better sense of responsibility towards environment.

World Day to Combat Desertification

The World Day to Combat Desertification, 17th June, 2010 was celebrated in the Pakistan Forest Institute, Peshawar. Mr. Hakim Shah, Director Forest Education Division was the Chief Guest of the event. Scientists and Forestry students highlighted the importance of the Day and different aspects of desertification issue, major causes and efforts being made nationally and globally for the solution and its accompanying impacts on food security and livelihoods of poor masses.

At the end of the program, trophies and prizes were awarded to the winner students of Urdu and English speech competition.



Director Forest Education awarding winner trophy

Special Lectures

Special Lecture programme has been initiated for the forestry students of PFI. In this regard, a series of lectures were arranged as below:

- The first Special lecture of the programme was on the "National and International Environmental Issues and Efforts towards their solution", was delivered by Dr. Muhammad Bashir Khan, Director General EPA, KPK on 4th May, 2010.
- The lectures on "International Conventions and Treaties" and "Bio-fuels Technology and their significance" were delivered by Dr. Muhammad Khurshid Khan, Deputy Secretary, Ministry of Economic Affairs Division, Islamabad on 20th May, 2010.



Dr. Muhammad Khurshid Khan
delivering lecture to forestry students

All officers and forestry students of the Institute attended the lectures and benefited from the knowledge and rich experience of the speaker.

- Lectures on disaster management programme were arranged at PFI, Dr. Sher Muhammad was the Chief Guest.
- A one day voluntarily blood donation camp with Fatimeed Foundation was also held.

BIODIVERSITY AND ITS IMPORTANCE

Ayaz Khan Marwat, SRO/FMO

The word biodiversity consists of two portions bio and diversity; bio means living things and diversity means differences. Hence the difference among the living organisms is called biodiversity or Biological diversity. Biodiversity refers to the variety of life forms; the different plants, animals and micro-organisms and the ecosystems they form.

The diversity of life ranges from unicellular microscopic to multi-cellular and complex forms. We have small unicellular and multi-cellular algae inhabiting the aquatic habitats like ponds, rivers and even sea. Bushes, herbs and tall giant trees growing over mountains in the forms of thick forests are of use to mankind in one way or the other.

To keep the couple of various species in the boat by Hazrat Noah (A.S) is a vital example of the importance of bio-

diversity conservation. Though extinction is a part of nature but now-a-days species are becoming extinct at a rate many times faster, some scientists say 10,000 times faster than ever before. Roughly 10,000 to 25,000 species are disappearing each year, dozens per day. This one isn't being caused by environmental change, but by the actions of hominids, we humans. The fact is that we human being can slow down it by taking appropriate measures.

The earth is estimated to have millions of species of which only 2.1 million have been described. Due to population growth and increasing rate of consumption, the natural wealth of our planet is being lost at an estimated rate of 5% per decade. This is a tragic loss to the biological wealth of our planet for ethical, aesthetic, economic as well as for ecological reasons. The alarming loss of habitats and species, and the ecosystem processes dependent on them has stimulated conservationists around the globe to share knowledge and resources to document and monitor in an attempt to reverse the planet's declining wealth.

Pakistan has rich sources of biodiversity, which belong to a unique blend of habitat and ecosystem types. These diverse ecosystems have their own characteristic. Most of the southern parts of the country are rich with coastal ecosystem and arid plus desert habitat types with a variety of species. These habitats are also refuge for the migratory wildlife resources coming from the northern landscapes to stay here in winter or breed in Pakistan. Indigenous local human communities are also residing here for centuries with their very own traditional knowledge and lifestyles in harmony with species.

Pakistan's mountain areas are world's exceptional wild resources, which harbor very different, isolated as well as hardy species that have learned to live in the harshness of the environment and in harmony with other species and communities. Medicinal plants of our mountains are famous for their role in the treatment of some very acute diseases of the human and animals. Some birds of prey in our northern landscapes are of majestic vision and isolate the beauty of this part from the rest of the world. It is very well said that they are the islands and paradise for wildlife species. Pakistan has a number of the world's rarest animals like Indus River dolphin, Snow Leopard, Western Tragopan, Markhor, etc. All these and other species are in decline due to a combination of threats such as habitat loss and overuse of natural resources.

SHORT NEWS

Dr. Ayaz Khan Khattak joined PFI as Director, Forest Products Research on

deputation on 29-04-2010. He is Ph.D in Forest Management from University of Munich, Germany. Prior to joining PFI, he was Conservator of Forests in KPK Forest Department. He had also served PFI, as LIF from 1984 to 1993. During his service, he worked on several positions in KPK Forest Department but mainly on natural resource surveys, forest inventories, social surveys and developing participatory forest management planning methodologies. He also introduced stand level management plans and joint forest management plans for state forests in the province. Also prepared the first ever biodiversity conservation plan, during 2005, for conifer forest of Palas Valley, District Kohistan. He has 33 years experience at his credit.

Bukht Zamin Khan Joined PFI, as Assistant Professor of Forestry on 30-04-2010 on deputation. He was DFO Forestry Planning and Monitoring Unit-III, Peshawar, before joining PFI. He has following academic qualification in his credential: M.A. Urdu, B.Sc. Forestry, B.Ed., and some diploma/certificate courses from UK and Thailand. He brought, with him, vast experience, of 33 years, in forest management, watershed management, range management, financial management, planning, monitoring, and institutional and human resource development.

Zakir Hussain Shah Joined PFI as Assistant Silviculturist, on deputation on 11-06-2010. Prior to joining PFI, he was serving KPK Environment Department as Section Office (Technical). He did M.Sc (Hons.) Rural Development, M.Sc. Forestry (Ext) and M.A. History. He brought with him 25 years experience in the field of forest management (development & conservation) and particularly joint forest management. He was also member of provincial core group for preparing project design document under clean development mechanism and disaster management plan for provincial forest department.

Muhammad Yousaf Khan Joined PFI, as Assistant Silviculturist, on deputation, on 15th June, 2010. He was DFO, Dir lower KPK forest department, prior joining PFI. He has M.Sc. Forestry Extension and LLB degrees at his credit. He brought with him 23 years experience of forest management and planning.

Raja Muhammad Zarif retired from his services on 14th June, 2010. He joined PFI as Forest Ranger in 1970 and retired as Director, Biological Sciences Research Division. During his service he served as Assistant Silviculturist, Assistant Professor of Forestry and Director, Forest Education Division.