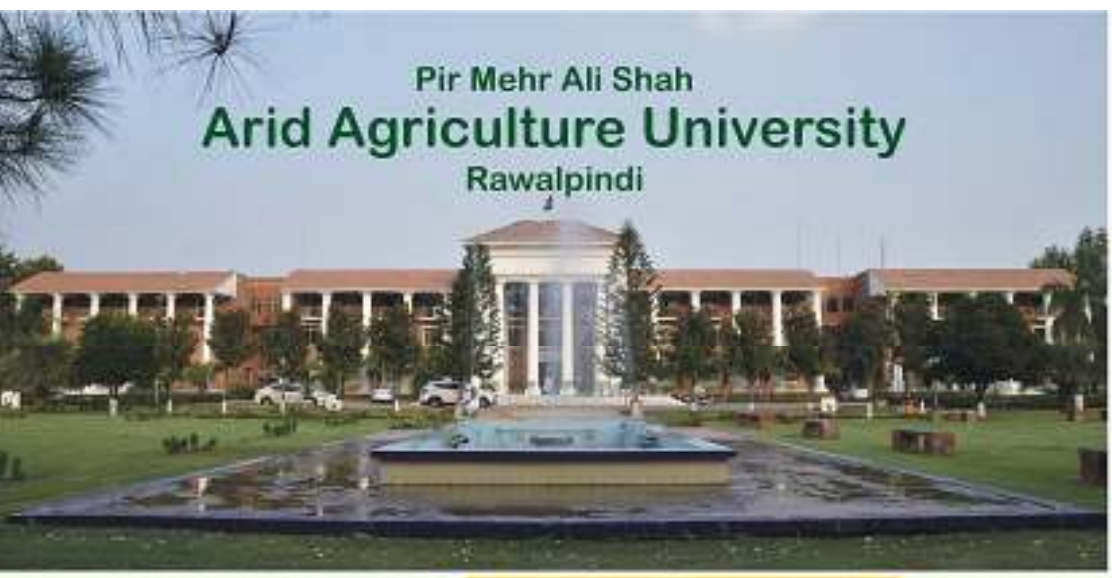

Pir Mehr Ali Shah

Arid Agriculture University

Rawalpindi

NEWS LETTER

Chinese Delegation Visit (P-1)

World Day to Combat Desertification (P-10)

Jul - Sep 2017

Published By

Directorate of
Public Relations & Publications

UI GreenMetric World University Ranking 2016 declared

PMAS-AAUR the 2nd Best University of Pakistan

NEWS LETTER

Jul - Sep, 2017

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Contents

Chinese Delegation Visited PMAS-AAUR

The University of Science and Technology of China (USTC) delegation headed by Mr. Jiajie Jiang, the Deputy Director of International Cooperation visited Pir Mehr Ali Shah - Arid Agriculture University, Rawalpindi (PMAS-AAUR), on August 29, 2017.

The delegation met with PMAS-AAUR Vice Chancellor Professor Dr. Rai Niaz Ahmad and discussed the areas of mutual interest in various disciplines of both the universities to collaborate in future.

In a meeting, PMAS-AAUR Vice Chancellor shared achievements and initiatives of the university with the delegation member and the participants. He urged the delegation for joint work in the common areas of interest like Biotechnology, Information Technology and Computer Sciences, Geo-Informatics, and Management Sciences.

Jiajie Jiang gave a presentation about USTC. He suggested for initiating exchange programs of faculty and students in the common areas of study. Afterwards, Deans and Directors of concerned Departments/Institutes (Biotechnology, Botany, Management Sciences, Humanities, and Computer Sciences) also discussed potential areas of collaboration between both institutions.

It may be recalled that UST is a prominent university in China and enjoys an excellent reputation worldwide. It was established by the Chinese Academy of Sciences (CAS) in 1958. USTC works in areas of Science & Technology and educate top leaders in China and worldwide.

5th Training to Test Indigenous Hydroponic Model

15 days (September 09-23, 2017) training session on Testing Indigenous Hydroponic Model was held at Pir Mehr Ali Shah Arid Agriculture University Rawalpindi (PMAS-AAUR).

This was the 5th training session and 45 farmers got training on Hydroponic Agriculture under the Punjab Government Project funded by Agriculture Development Bank to train the farmers on Hydroponics Technology. A total of 200 farmers from all wide Pakistan will get training under this project.

Prof. Dr. Rai Niaz Ahmad Vice Chancellor PMAS-AAUR was the chief guest while Dr. Ghazanfar Ali Khan, Additional Secretary (Planning) Agriculture Department, Government of the Punjab was the guest of honor at the concluding ceremony. The ceremony was also attended by deans, directors and farmers.

Prof. Dr. Rai Niaz Ahmad said that intervention of hydroponic technology has leaped behind inventions in the field of agriculture, "It is the best source of getting hygienic and up to mark & standard vegetables and fruits. Farmers should practice this technology at domestic levels for expertise and expands their learning to the native areas in the fields so that everybody can enjoy the fruit of viable agriculture at every level, instead of limited persons or specific class." he added.

He assured that Hydroponic Technology would increase the production as well as incomes of farmer and ultimately leads the country towards development and for the achievement of economic goals through foreign earnings.

Dr. Ghazanfar Ali Khan thanked and congratulated the PMAS-AAUR Vice Chancellor for the successful launching and completion of project and for the achievement of targeted goals. He said, "the successful execution of this project has changed the game and expands the scope of agriculture from traditional to high level modernized agriculture."

He hoped that farmers would put in all efforts for the expansion of this technology at National levels for the development of the country.

World Bank Delegation Visited PMAS-AAUR

A meeting on' Strengthening markets for Agriculture and Rural transformation (SMART) in Punjab' was held, on September 23, 2017, at Pir Mehr Ali Shah Arid Agriculture University Rawalpindi (PMAS-AAUR) in collaboration with Research & Extension wing of the World Bank.

The objective of this meeting was to discuss the research and extension components of agriculture and to explore the gaps among research, industry and extension in order to strengthen market and rural transformation process in Punjab.

The meeting was chaired by Prof. Dr. Rai Niaz Ahmad, the Vice Chancellor of PMAS-AAUR while Mr. Derek Byerlee, Head Research Work at World Bank and Dr. Mubarik Ali, Consultant at World Bank were the guests of honor. The meeting was attended by Deans, Directors and Administrative officials of the University.

Prof. Dr. Rai Niaz Ahmad acknowledged the importance and need of research and said, our research must address the needs of farmers and other stakeholders to harvest the benefits of new technologies and modern agricultural practices. Today's activity will help us in identifying the gaps among research, industry at national and international market levels, he added. He emphasized on the indigenizing knowledge with a particular focus on stimulating growth and increase productivity through technological advancements and marketing strategies. Prof. Dr. Rai Niaz Ahmad also shared achievements and initiatives of the varsity and briefed about the ongoing academic projects and research work with the delegation members.

The participants discussed the issues related to agricultural research & extension and gave their suggestions on, how to strengthen the market and transform the rural system. The delegation members applauded the efforts of Vice Chancellor in academic and research avenues and thanked the participants for their valuable ideas and suggestions.

Institute of Soil Science Inaugurated at PMAS-AAUR

Realizing the importance of soil & water conservation, the Department of Soil Science & Soil and Water Conservation (SS&SWC), which was established in 1985 at Barani Agricultural College Rawalpindi, has been upgraded to the Institute of Soil Science at the main campus of Pir Mehr Ali Shah Arid Agriculture University Rawalpindi (PMAS-AAUR) on September 26, 2017.

The Institute was inaugurated by PMAS-AAUR Vice Chancellor Prof. Dr. Rai Niaz Ahmad while Deans, Directors, faculty members and students were also present.

Prof. Dr. Khalid Saifullah Khan, Chairman of the Department briefly described the history of the Department and emphasized the need for its up gradation into the Institute.

Prof. Dr. Rai Niaz Ahmad highlighted the importance of efficient use of farm inputs and urged the soil scientists to play leading role in conservation of land and water resources. He said that agricultural productivity profoundly depends on the soil health, therefore it is utmost important to protect the natural resources. He stressed the need to adopt latest agricultural practices to boost production in order to feed the increasing population.

Prof. Dr. Rai Niaz Ahmad highlighted the up gradation objectives of the department as institute and said that the institute will not only educate undergraduate and graduate students but would be helpful to solve the problems related to soil & water conservation, soil fertility and sustainable productivity in more beneficent manner.

3rd National Training on Commercial Ostrich farming

A two day (September 26-27, 2017) 3rd National Training on Commercial Ostrich Farming was held at Pir Mehr Ali Shah, Arid Agriculture University, Rawalpindi (PMAS-AAUR).

The training was organized by the Station for Ostrich Research & Development -Faculty of Veterinary and Animal Sciences, with an aim to train & guide the ostrich farmers about, Hay & Silage making for sustainable Ostrich and for the promotion of ostrich farming in Pakistan.

At the concluding ceremony Prof. Dr. Rai Niaz Ahmad Vice Chancellor PMAS-AAUR was the chief guest and seminar was also attended by Deans, Directors, faculty members and ostrich farmers from all wide the Pakistan.

Prof. Dr. Rai Niaz Ahmad, Vice Chancellor PMAS-AAUR, keeping in view the growing needs of ostrich industry in Pakistan and its scope all over the world said, "The booming trend of Ostrich farming in Pakistan is no doubt the best source of foreign earnings but also it is suitable alternate to meet with the high demand of livestock and to cope with food shortage in future."

He emphasized each and every individual to play due role for the development of society and said, "All individuals must put in all efforts by utilizing the optimal resources for the development of country."

He applauded the efforts of organizers for the expansion of field knowledge with ostrich farmers and their due role for the promotion of industry at the national level. He also distributed the certificates among the participant of training.

Dr. Arfan Yousaf, Dean Faculty of Veterinary and Animal Sciences and Dr. Nasir Mukhtar, In-charge Station for Ostrich Research and Development also addressed the participants.

Awareness Walk on Fruit Fly Management Held at PMAS-AAUR

Fruit Fly Management Week (21-26 August, 2017) was held at Pir Mehr Ali Shah Arid Agriculture University Rawalpindi (PMAS-AAUR), in compliance with the directions of Secretary Agriculture, Government of Punjab.

The objective of observing Fruit Fly Management Week was to promote the fruit industry and practicing the management techniques at mass scale in the province in order to cope with fruit flies and its insects or pests. This campaign was then launched in all districts of Punjab simultaneously.

At PMAS-AAUR, activities for Fruit Fly Management Week started with organizing awareness walk to promote Fruit Fly Management techniques. Teachers and students of Faculty of Food & Crop Sciences along with other faculties joined this walk. Trainees of the Prime Minister's National Internship Program also participated in the walk. The Vice Chancellor of the University, Prof. Dr. Pir Niaz Ahmad, Dean Faculty of Food & Crop Sciences, Prof. Dr. Nadeem Abbasi, Chairmen of different Departments of Agriculture were among the participants.

Students were holding banners and play cards with the messages about Management of Fruit fly.

Prof. Dr. Pir Niaz Ahmad emphasized that it is very important to promote Fruit Fly Management techniques in order to minimize the losses caused by these notorious insect pests and to increase quantity and quality of the field produce especially of the fruits and vegetables. The participants moved through the university premises and walk ended at the Department of Entomology.

UIIT Organized 10th Open House

The 10th Open House was held at Pir Mehr Ali Shah Arid Agriculture University Rawalpindi (PMAS-AAUR) on August 8th, 2017.

The event was organized by University Institute of Information Technology (UIIT) with an aim to provide a platform to the students not only to showcase their projects but also to strengthen the linkage between industry and academia as well as enable students to understand market trends.

PMAS-AAUR Vice Chancellor (VC) Prof Dr Rai Niaz Ahmad was the chief guest while Deans, Directors, faculty members and representatives from industry also attended the Open House.

In an Open House more than 50 projects were displayed while students present the solution of the software industries real problem such as agriculture, mechanical, electrical, chemicals, hardware, teachers community problems, etc. In their projects, keeping in view the needs of clients, students did proper analysis to create design and then implement with the help of tools & technologies of current era with modern programming approaches.

Prof Dr Rai Niaz Ahmad, applauded the efforts of young students and said that PMAS-AAUR administration is committed to provide a stimulating and supportive environment to each and every student to gain confidence and maximize their potential in specialized field areas especially in computer science and agricultural collaboration.

Vice Chancellor said that Pakistan being the agricultural country in desperate need of IT fusion so that we can die agricultural sector with the help of intelligent and customized applications. A lot of efforts have been done but still there is a big concern to enhance intelligent application which can help to boost our agricultural economy, he added.

He emphasized on strengthening the relationship between industry and academia for rapid growth of information technology in the country. He stressed upon the students to work hard for knowledge and assured them every support from PMAS-AAUR in creative and unique projects.

Director UIIT, Dr. Mubashir Riaz Khan briefed the participants about the aims and objectives for organizing this event. He informed the gathering that this open house is a way forward for our education system that needs to bridge up the gap between the theory and the practice, address the

societal demands and reclaim its recognizable space in the family of academia.

He appreciated all participants from academic, industry, faculty members for supervising and making the event successful.

Awareness seminar on Fruit Fly Management

Speakers at a seminar emphasized that every individual have to pay due role to root out the causes and cope with fruit fly.

They highlighted the efficacy of different traps to control fruit fly and informed that over 350 species out of 4,000 species are the major cause of economic loss. Pakistan is suffering by 11 species and facing a loss of over $200 million annually. They suggested the tools, techniques, limitations and remedial measures to overcome the damages being caused by fruit fly in order to meet with the export standards of various countries.

The seminar was held in connection with Fruit Fly Management week at Pir Mehr Ali Shah Arid Agriculture University Rawalpindi (PMAS-AAUR), on August 28, 2017. Prof. Dr. Rai Niaz Ahmad, Vice Chancellor PMAS-AAUR was the chief guest while Deans, Directors, faculty members, students and officials from agriculture department were also present on the ocassion.

The seminar was organized by the PMAS-AAUR Department of Entomology in collaboration with District Government on the directive of Punjab Government, with an aim to mobilize all agriculture related departments for the field knowledge of fruit flies and to overcome the loss been suffered by the economy.

Prof. Dr. Rai Niaz Ahmad, Vice Chancellor PMAS-AAUR, appreciated the role of Punjab Government for the exposure of agriculture and development of country. He applauded the step been taken by the Secretary Agriculture, Punjab and his focus on major factors necessary for the survival of economy. He determined and said, "We must put in all efforts to address the issue and must come with solution to the problems". He assured his very support and University participation at every stage through research work and expert opinions for the integrated solution to the problems. He emphasized that every individual have to pay due role to root out the causes and cope with fruit fly. He urged we must be offensive rather than defensive in approach and change the priorities over preferences and said, "The time factor with emergent action is very much crucial to engrave any evil."

Dr. Nadeem Akhtar Abbasi said, "Horticulture crops have high potential for export and foreign earnings also higher is the risk and loss. The overall impacts of fruit fly is 50-90% however, Citrus, Mangoes and Guava are the major victims in Pakistan". Dr. Asim Gulzar briefed about population dynamics and said, "Fruit flies are among the world's most serious pest of fruits and vegetables and have direct impact on the economy".

Dr. Arif Assistant Director, Agriculture Department briefed about the major techniques focused by Punjab Government i.e. Male Annihilation Technique (MAT), Bait Application Technique (BAT) and Crop Hygiene. He was in belief that sanitation is the most important factor of fruit fly management and said, "One can analyze the population and take remedial measures in accordance. About 70-80% loss can be handling through Crop Hygiene method." He added.

2nd National Training on Commercial Ostrich Farming

A two days (August 1-2, 2017) training on Commercial Ostrich Farming under the theme of Ostrich Diseases and Prevention was held at Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi (PMAS-AAUR)

The prime objective of the training was to provide technical knowledge as well as expertise for health and diseases, handling, management and marketing of ostrich meat and its by-products. The training covered various techniques that could result in enhanced meat yield and high livability at the young age under local farm environment.

Vice Chancellor, PMAS-AAUR, Prof. Dr Rai Naiz Ahmed was the chief guest at inaugural session while deans, directors and ostrich farmers attended the training. Over thirty Ostrich farmers from all over the Pakistan participated and got training on handling, restarting of ostrich, rearing of ostrich chicks for meat, skin & feather production, medication & vaccination and for the successful ostrich production with contemporary health issues.

Prof. Dr Rai Niaz Ahmed called Ostrich as Millennium Bird and said, "Pakistan has the most favorable environment for Ostrich Farming." He highlighted the benefits of ostrich farming and said, "Ostrich farming is the only way out to overcome the shortage of meat in the country. There is dire need to awake the awareness and importance of ostrich farming." He referred it as the farm of future because of high profit potential and a favorable source of foreign earnings.

He urged the veterinary researchers to put in all efforts for the diagnosis and prevention of diseases to resolve the issues regarding ostrich farming for its expansion at national levels and enhancement of ostrich production to cope with the future challenges.

Prof. Dr. Arfan Yousaf, Dean Faculty of Veterinary & Animal Sciences, Dr. Nasir Mukhtar, Dr. Mansur Abdullah Sandhu, Dr. Tanveer Ahmed also addressed the participants. They briefed about the handling, breeding, quality evaluation and causes of early chick mortality, discussed ostrich general physiology and also guided on nutrition problems.

World Day to Combat Desertification

Pir Mehr Ali Shah Arid Agriculture University Rawalpindi (PMAS AAUR) in collaboration with Sustainable Land Management Programme (SLMP) organized a seminar on "Combating Desertification in Pakistan" and organized awareness walk as well as tree planting to mark the World Day to Combat Desertification (WDCD) on July 13, 2017.

The WDCD is observed every year on 17 June to promote public awareness of international efforts to combat desertification. In Pakistan this year, due to Ramazan, celebrations were held in July.

Country Director, United Nations Development Programme (UNDP) Pakistan, Mr. Ignacio Artaza was the chief guest while Prof. Dr. Rai Niaz Ahmad Vice Chancellor PMAS-AAUR, National Programme Director (SLMP-II), Mr. Ishrat Ali, Mr. Hamid Marwat, National Programme Coordinator (SLMP-II), Prof. Dr. Maqsood Anwar, Dean Faculty of Forestry, Range Management and Wildlife, Prof. Dr. Sarwat N. Mirza (Pro-VC), Chairman Department of Forestry & Range Management of PMAS-AAUR, Deans, Directors, faculty members and large numbers of students were also present on the occasion.

Country Director, United Nations Development Programme (UNDP) Pakistan, Mr. Ignacio Artaza emphasized to mainstream efforts for sustainable land management to combat desertification. He said, "Desertification is a global phenomenon, affecting the livelihoods of 900 million people across the five continents and representing a kind of worldwide threats to biodiversity. It requires global attention and local action."

Mr. Artaza acknowledged efforts by the Ministry of Climate Change and appreciated Sustainable Land Management Programme (SLMP) for on-the-ground efforts to combat desertification in 14 districts of all four provinces within the country. He said, "UNDP is playing a meaningful role through its programmes and partnerships in Pakistan."

"Environment and Climate Change Unit of the UNDP has been making pragmatic efforts to address the overall effects of climate change in Pakistan and specifically desertification through the SLM Programme.", Artaza said. He, particularly, appreciated engaging local communities in decision-making.

Prof. Dr. Rai Niaz Ahmad, Vice Chancellor PMAS AAUR, highlighted the role university is playing for better climate in the country. He emphasized that such collaborative activities must be strengthened and taken forward for combating desertification in Pakistan. He also appreciated UNDP Pakistan and Ministry of Climate Change for taking the lead in sustainable land management through their joint programme, SLMP. Prof. Dr Rai Niaz Ahmad said, "Desertification and land degradation is a key challenge for the socio-economic development of Pakistan and emphasized on promotion of practices such as Hydroponics, Rainwater Harvesting to address the issues of food insecurity and water scarcity. Rainwater harvesting is the best source to meet the agriculture needs also tends to improve the quality and quantity of produce", he added.

National Programme Director (SLMP-II), Mr. Ishrat Ali informed the audience that Ministry of Climate Change (MoCC) was aware of the threats posed by desertification, land degradation and drought to environmental sustainability and appreciates value of policy, projects and programme's interventions in combating desertification, land degradation and drought.

He said, "SLMP is working on developing Integrated Sustainable Land Management Policies, Land Use Plans at district and village levels, and on ground interventions that aim for effective environmental management for combating desertification, land degradation and drought in Pakistan."

Mr. Hamid Marwat, National Programme Coordinator (SLMP-II) briefed the audience about World Desertification Day and about SLMP approaches and interventions for better land management in Pakistan. He said, "The implementation of the programme would bring considerable financial benefits for the poor dry land communities through the sustainable management of their land resources."

Prof. Dr. Sarwat N. Mirza, Pro V.C & Chairman Department of Forestry & Range Management, PMAS Arid Agriculture University, Rawalpindi, discussed desertification in detail and highlighted threats, challenges and opportunities in Pakistan's context.

Prof. Dr. Maqsood Anwar, Dean Faculty of Forestry, Range Management and Wildlife thanked the audience and other participants of the seminar for according importance to the grave issue of desertification and hoped that collaboration between academic and research institutions with specialized institutions like AAUR, UNDP, MoCC and SLMP would go a long way in desertification in the country.

Pakistan is signatory to United Nations Convention to Combat Desertification (UNCCD). In order to meet the objectives of the convention, Government of Pakistan, with support from United Nations Development Program (UNDP) and Global Environment Facility (GEF) is implementing second phase of the Sustainable Land Management Program (SLMP-II) in fourteen dry land districts of all four provinces.

SLMP is striving to achieve the long-term goal of combating land degradation and desertification in Pakistan to promote sustainable management of natural resources, restore degraded ecosystems, reduce poverty, and increase resilience to climate change.

The program has recently made efforts for aligning Pakistan's National Action Plan to Combat Desertification (NAP) with 10-year strategy of the UNCCD Implementation of the NAP for mainstreaming SLM principles in national, provincial and local policies and planning processes. The United Nations Convention to Combat Desertification (UNCCD) is the only legally binding international agreement on land issues.

Azadi Day Celebration Week Observed

PMAS-Arid Agriculture University, Rawalpindi observed Azadi Day Celebration Week (7th August to 14th August) with full devotion and enthusiasm, whereas a ceremony to mark the 70thIndependence Day Was held by hoisting National flag at Main campus. Deans, directors, administrative officers, faculty members, employees and a large number of students and children make Azadi celebrations under the flag of Pakistan by playing National Anthem also tributes are paid to martyrs of freedom fighters and prayers are offered for the prosperity and development of Pakistan.

Different events including seminars, conferences, debates, speech contents, quiz competitions, dramas and mushairas were arranged in connection with the Azadi Celebration Week. The campus was decorated by National flags, buntings, banners, posters and arches while Mr. Bahadur Buriev, 1st secretary Tajikistan and Mr. Marufsjon Abduramanov commercial and cultural attachment were also invited on the event.

Prof. Dr Rai Niaz highlighted the importance of Independence Day and said 14th August has a great significance in the history of Pakistan and thanks Allah for giving us separate homeland where we can spend our lives according to the teachings of Islam.

He emphasized that every individual must play role by putting time, efforts and knowledge for the development of our Pakistan. He recalled untiring efforts and pay homage to the people who devoted their lives for Pakistan freedom movement and made sacrifices to attain a separate independent country.

for

Obtaining Biogas and Electricity from Waste Biomass

Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi has developed Mehr Biogas Model after the countless efforts of about three years to meet the domestic needs of biogas and electricity through biomass-bioenergy technology. After the successful launching and obtaining the desired results, the Model has been presented to the Government of Punjab for its demonstration to cope with the energy crisis. The prominent feature of Mehr Biogas Model is that its size can be reduced in accordance with domestic requirement; moreover, it yields high quality organic fertilizer (compost) after six months continuous supply of biogas and electricity. Mehr Biogas is a step forward for the fulfillment of Prime Minister's Green Pakistan program after launching it first in Punjab then spread all over Pakistan.

A Right Choice for Rural and Urban Communities: Issues and Resource Utilization

Issues:

In rural areas, huge piles of animal dung and waste fodder/ straw spreading environmental pollution. In cities, organic waste generated from park lawns/ fruit & vegetable market and household kitchen waste been gathered in the Park Lawns and Vegetable Markets in the cities, has become a major problem for city administration. These garbage piles are the major cause for serious diseases as well. Such organic wastes are named the ultimate sources of energy and fertilizers. However, due to lack of suitable technology, the government has to import a huge volume of fertilizers every year.

Resources:

About 60 % of biomass input/ raw material for Mehr Biogas Model is derived from household wastes, organic wastes being burnt at farms, vegetable & fruit waste, grass & leaves thrown out from orchards and farms.

Ultimate Solution:

Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi could not only help to make the rural and urban areas neat and beautiful but could also make true the slogan of 'Green Pakistan" given by Prime Minister. Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi has developed the technology for biogas and electricity generation using waste organic materials of crops, plants, animals and poultry farms. This is an alternate source to meet with the domestic needs of energy. After producing biogas and electricity continuously up to six months, decomposed organic material turns into the best quality organic fertilizer (compost) that plays a key role for organic farming.

Green Pakistan Program:

Pakistan is facing the worst energy crisis over a few decades. The mission of "Green Pakistan" would not be achieved unless the domestic energy needs of the increasing population are met

fulfilled. Traditionally, the trees whether in the fields and forests or on the mountains or road-sides are cut down and burnt for domestic heating purpose. Therefore, there is dire need of planting and taking care of trees and to develop the alternate energy sources. Such technology should be economical and energy efficient. Mehr Biogas Model is the best solution of getting energy and also has the potential to meet the domestic needs most economically. The awareness of this technology is desired at domestic level, so that we can fulfill the Mission of prime Minister's Green Pakistan, by making Punjab province a model to fulfill the dreams of 'Green Pakistan' afterwards.

Mehr Biogas Model

1. Biogas Digester:

It is a square or rectangular shape room type enclosure/ pit built from bricks or hollow concrete blocks. The concrete base must be slightly in slope so that the unused water sprinkled over the biomass can be drained out from a corner. Digester size can be customized as per need. It is filled with the biomass of plants and animals waste well mixed up or placed in layers. It is important to have the enough quantity of materials. For more detailed guidance the technical team of PMAS-AAUR can be contacted. It is also acknowledged that the biomass filled once is sufficient to get gas for about six months. The gas produced is of very good quality, economical, durable and environmental friendly being suitable for domestic use.

2. Digester Internal Structure:

Experiments have shown that instead of bricks, the walls made from hollow concrete blocks are better, because the blocks not only control external temperature in winter but also helpful in retaining temperature inside the digester. Aluminum pipe has also been tested to increase the internal temperature in the winter, which can be maintained by hot water circulation in pipes.

3. Biogas extraction system:

After filling the digester with biomass, water is sprinkled which is essential for the gas production. Water is added to the extent that can maintain up to 60%-70% moisture levels. To extract the gas, network of pipes is placed within the digester and gas is extracted from the other end of piping system outside.

4. Gas usage and storage:

Gas production begins within two weeks after filling the biomass material in the digester and watering it. A pump is attached with the outer end of pipe to extract gas for its utilization or usage. Extra gas can be stored in biogas bags which can be attached to the generator to meet the electrical needs at domestic levels or home use.

Size of Domestic plant and Energy needs:

Purpose	Energy Needs	Digester Size	Quantity of Dry Biomass
Small Family	2 Fans, 2 Bulbs and Gas Stove	8' x 8' x 5' = 320 ft^3	4.0 Tons
Medium Family	4 Fans, 4 Bulbs and Gas Stove	12' x 8' x 5' = 480 ft^3	6.0 Tons
Large Family	6 Fans, 8 Bulbs and Gas Stove	16' x 8' x 5' = 640 ft^3	8.0 Tons

News in Pictures

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World Bank Delegation Visited PMAS-AAUR



Institute of Soil Science Inaugurated at PMAS-AAUR



3rd National Training on Commercial Ostrich farming



Entry Test for Admissions (Fall-2017)



UIIT Organized 10th Open House



Awareness seminar on Fruit Fly Management



News in Pictures

2nd National Training on Commercial Ostrich Farming



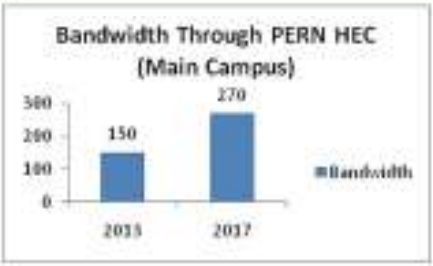
World Day to Combat Desertification

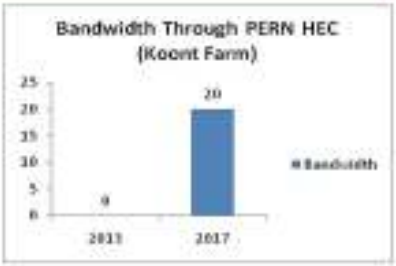


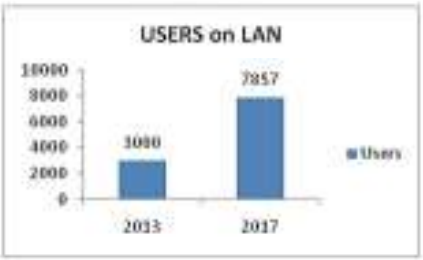
Azadi Day Celebration Week Observed

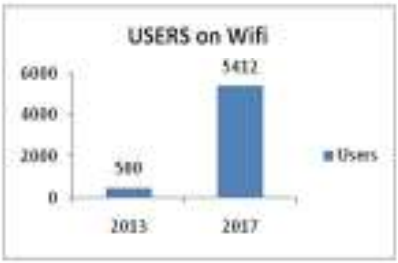



Four Years of Excellence
An Overview of Major Achievements and New Initiatives









University Sub-Campuses
(On-going & Proposed)

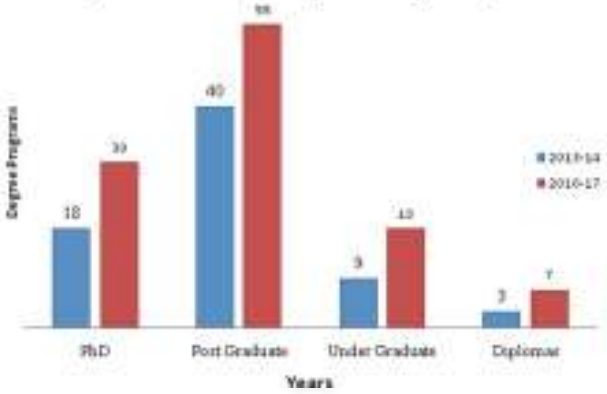
Four Years of Excellence
An Overview of Major Achievements and New Initiatives

CMS-A Glance

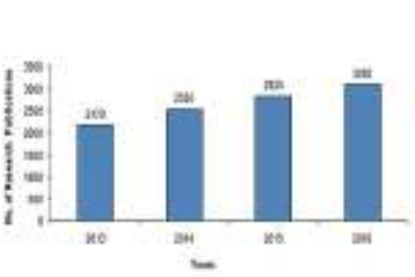
University Web Services-A Glance

Four Years of Excellence
An Overview of Major Achievements and New Initiatives

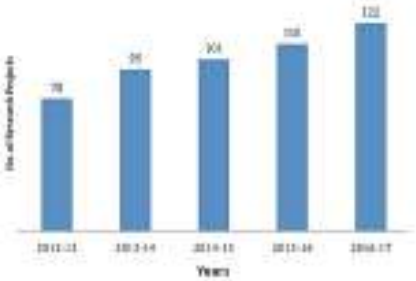
A Comparative View of Degree Programs (2013-2017)



A Graphical Representation of Research Publications & Projects (2013-17)



Research Publications



Research Projects

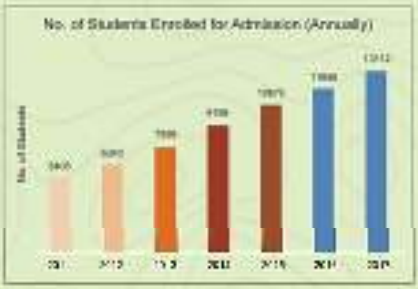
Faculties/ Departments	2013-14	2016-17
Faculties	4	6
Institutes	3	7
Sub-Campuses	1	2

Faculties/ Departments	2013-14	2016-17
Departments	25	33
Affiliated Institutes	1	7
Administrative Departments	15	21

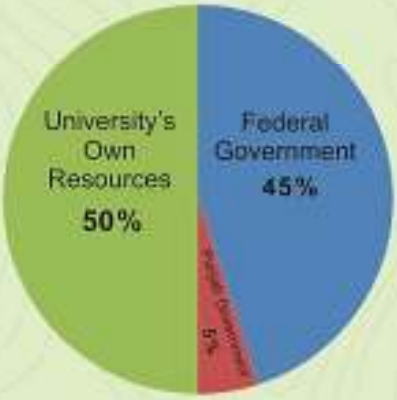
Four Years of Excellence
An Overview of Major Achievements and New Initiatives

Percentage Increase in Annual Admissions of Agriculture, Agriculture Supportive & Non-Agriculture Disciplines

Year	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Agriculture Disciplines	25%	29%	30%	33%	37%	40%
Agri. Supportive Disciplines	24%	24%	25%	26%	25%	25%
Non-Agriculture Disciplines	52%	48%	45%	41%	38%	35%



Detail of University's Financial Resources



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