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<td>25</td>
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</tbody>
</table>
PREFACE

During the year 2009, Pir Mehr Ali Shah (PMAS) Arid Agriculture University has made substantial efforts to improve academic as well as Research activities alongwith financial resources. Various teaching departments were up graded/ strengthened through the development of infrastructure, procurement of sophisticated scientific equipments and purchase of books etc. one R & D Project worth Rs. 38.885 Millions was completed in the year 2009 and three projects worth Rs. 129.688 were initiated. The faculty members under took sponsored Research Projects worth Rs. 58.849 million funded by various funding agencies.

The Hydroponics Research Farm (Farmer’s Marketing (Pvt) Limited was taken into possession during this year from a reputable foreign organization. This Hydroponics facility is situated near Rawat on main G.T. Road, Rawalpindi. This is one of the unique facilities which possesses all cutting edge technology for production, Packaging and marketing of Greenhouse Vegetables Crops, grown on solution culture only.

The Faculty was upgraded and fifteen new faculty members were inducted to overcome staff shortage for increase trend of the student enrollment.

A Student Resource Centre was established to facilitate the students problems for the award of scholarship, employment and unforeseen emerging issues.

Twenty One National and International workshop/ seminars/ synopsis/conferences were organized/arranged at the university campus to share/transfer knowledge with in the country and globally.

The linkage between faculty, Industry and farming community has been further promoted to ensure the penetration and achievements of objectives of the university.

Memorandum of Understandings with various national and International organizations were signed for academic and Research were signed for academic and Research sharing. The provision of better Research facilities encouraged the facility to publish 212 Research Publications in National and International reputed journals.
ACADEMICS

ESTABLISHMENT OF STUDENT RESOURCE CENTER
The name of University Placement Bureau is substituted with Student Resource Centre in order to generate students resources in the form of employment, local scholarships, financial aids and international scholarships. This center will help the students of the university to attenuate their academic quench. The students resource center also act as focal office of the indigenous scholarships for M.Phil and Ph.D scholars of the University. The SRC will also maintain a data base for the alumni students.

ESTABLISHMENT OF FARM RESEARCH LABORATORIES AT KOONT
Eight fields research laboratories were established in the field of Agronomy, Horticulture, Plant Breeding and Genetics, Forestry and Range, Plant Pathology, Entomology and Soil Sciences respectively. These laboratories are primarily meant for academic research at the Research Farm

APPROVAL OF THE FIRST PATENT OF PMAS-AAUR
The Patent Office Government of the Pakistan has approved the first ever Patent from PMAS-AAUR in its history, which was filed by Prof. Dr. Muhammad Saqlan Naqvi, Department of Biochemistry pertaining to the sequence of the promoter region of OsRGLP2 gene which is capable of regulating gene expression under stress condition.

STRENGTHENING OF DEPARTMENT OF WILDLIFE MANAGEMENT
The department of Wildlife Management is being strengthened by procuring field and laboratory equipments, renovation of existing laboratories and faculty development. This will enhance the existing academic capabilities of the department and excellence in research activities.

UP-GRADATION/STRENGTHENING OF LIBRARY FACILITIES.
The University Library is being up graded/strengthened through a development project funded by Higher Education commission. This project will lead to enhance the existing capabilities/competencies of the faculty and students in order to attain the academic/Research Excellence.
ESTABLISHMENT OF R&D FACILITIES IN HYDROPONICS AT FMP
PMAS-AAUR has taken the possession of an internationally recognized Hydroponics farm at Rawat Rawalpindi. This is one of the unique facilities which have got all cutting edge technology for production, packaging and marketing of Green houses crops, grown on solution culture only. Hydroponics Plant carries on this business from its five acres green houses located in Rawalpindi, which has integrated facilities that include cold storage, packing and shipping facilities, offices and residences, over an area of 13.5125 acres situated at Kalyam Mughal, Main G.T Road, Rawalpindi. There are infrastructure, green houses, and tunnels & costly hydroponics equipments meant for execution of the production activity of the center. It is imperative to mention here that students of Agriculture, Sciences and Management Sciences will directly get benefit out of this proposed project.

ESTABLISHMENT OF VETERINARY FIELD CLINIC AT G.T ROAD RAWAT
A veterinary field clinic has also been established at G.T Road Rawat to cater the needs of livestock farmers in the arid area (Potowar area). The veterinary officer of the filed clinic will visit the near by agriculture areas in order to equip the livestock farmers against animal / livestock diseases. Further more this clinic will also act as mini hospital for the DVM students.

ESTABLISHMENT OF PET CLINIC AT FACULTY OF VETERINARY AND ANIMAL SCIENCES
The Pet Animal Clinic was established during this year at Faculty of Veterinary and animal Sciences. This clinic will act as teaching hospital for students of DVM. This clinic will also cater to the needs of health and management of small animals owned by the residence of the twin cities of Islamabad and Rawalpindi. The regular clinical examination and minor surgical operations of Cats and Dogs are being carried out at the clinic.

ESTABLISHMENT OF DAY CARE CENTER
For working parents of today - usually better educated than their parents- are more aware of these factors and wanting the best for their children, are demanding the
structured pre-school education and learning stimulation offered by modern day care centers. This is an honest desire of the parents of pre-school age children. The day care center was established to facilitate the faculty members, Ph.D Scholars and employees of the university.

SHORT COURSES

In addition to degree programmes, the Faculty of Crop & Food Sciences, the Faculty of Forestry, Wildlife & Environment and Faculty of Veterinary & Animal Sciences organized many short courses in the past year. Two hundred participants were trained in the following courses.

- Field Assistants course 04 months
- Tunnel Farming 01 week
- Tissue culture Laboratory Technician & Nursery Management 01 week
- Professional Floristry 02 weeks
- Computer Application 12 Weeks
- English Language Course 08 Weeks
- Veterinary Assistant 12 Months

LINKAGE WITH INTERNATIONAL ORGANIZATIONS

The University signed five memorandum of understanding (MoU) with the following International/national organizations to strengthen the academic and research activities.

- Snow Leopard Trust, USA
- University of Western Australia
- Massey University, New Zealand
- Rawalpindi Chamber of Commerce & Industry, Rawalpindi.
- International Livestock research Institute (ILRI), Nairobi, Keynia

FACULTY DEVELOPMENT

Faculty Development is a continuous process in order to achieve academic excellence. To improve academic program, the addition of new faculty is a regular feature at the University. During 2009, PMAS-AAUR management has great coherence, liaison and
coordination with faculty in enhancing quality educational & research opportunities. Resultantly, PMAS-AAUR is producing useful & trained human resource in specialized sectors.

Following staff was appointed in various departments on the recommendation of the selection board.

<table>
<thead>
<tr>
<th>Department</th>
<th>Lecturer</th>
<th>Assistant Professor</th>
<th>Associate Professor</th>
<th>Professor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop &amp; Food Sciences</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>05</td>
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<tr>
<td>Sciences</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>05</td>
</tr>
<tr>
<td>Range Management &amp; Forestry</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>01</td>
</tr>
<tr>
<td>Veterinary &amp; Animal Sciences</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>University Institute of Information Technology</td>
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<td>0</td>
<td>0</td>
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<td>04</td>
</tr>
<tr>
<td>University Institute of Management Sciences</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>00</td>
</tr>
<tr>
<td>Woman Division</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>00</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>12</strong></td>
<td><strong>01</strong></td>
<td><strong>00</strong></td>
<td><strong>02</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

STUDENT ENROLLMENT

The student strength of the university is increasing day by day as reflected in the table below.

<table>
<thead>
<tr>
<th>S No</th>
<th>Name of Degree</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Graduates</td>
<td>1677</td>
<td>1967</td>
<td>2291</td>
</tr>
<tr>
<td>02</td>
<td>Post Graduates</td>
<td>2369</td>
<td>2566</td>
<td>2564</td>
</tr>
<tr>
<td>03</td>
<td>Doctoral</td>
<td>137</td>
<td>144</td>
<td>160</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>4183</strong></td>
<td><strong>4677</strong></td>
<td><strong>5012</strong></td>
</tr>
</tbody>
</table>

DOCTORAL /POST DOCTORAL TRAINING / SHORT-TERM TRAINING

The faculty members were encouraged to improve their qualifications and visit universities aboard to update their knowledge and transfer technical know how back home from international universities/institutes. In the objectivity, three faculty members completed Ph. D in the fields of Forestry, Food technology & Agri-Economics and five faculty members obtained post-doctoral fellowship from HEC and executed research work in UK, Canada & Australia. Moreover, three faculty
members proceeded on short-term trainings/courses in Japan, South Korea & U.K. In addition to above, seven faculty members have initiated PhD in Information Technology, Horticulture, Education, Statistics and Management sciences.

**RESEARCH FOCUS**

University faculty focused their research activities on the issues of farming community of Barani areas in general and potohar in particular. These included projects related to soil conservation, weed management, drought tolerance studies in wheat through genetic engineering and environmental studies to control pollution. The following Research projects were operational during 2009.

- Selection of characterization of starter culture for fermented milk products
- The epidemiological studies on bovine fasciolosis leading to the development of forecasting model to assess site specific risk on Indus river basin in Punjab
- Developing high trait hybridized/mutant scavengers chicken for rural poultry
- Study of polyphenol oxides activity and its association with molecular markers in different r wheat genotypes
- Evaluation of Soil Moisture Depletion Pattern, Soil Microbial activity & biomass under different types of terracing in Pothwar
- Allelopathic crop residue use for weed management in rainfed areas of Punjab
- Exploring of genetic variation for drought tolerance in wheat by using physiological biochemical attributes
- Conservation of Urial through semen preservation
- Virulence Analyses of Xanthomonas Campestral pv Sesami and Pseudomonas Syringae pv sesame the Causal organisms of sesame (Sesamum INdixu L) bacterial blight
- Characterization and Quantification of Soil Iron Oxides and their effect on Phosphorus Sorption
- Tissue culture and transformation studies in Banana for disease eradication/resistance
- Selection of Probiotic cultures for yogurt making
- Evaluation of Mungbean cultivars for the response to Rhizobium in Potohar region
Impact of tillage system Legumes and mulches on soil profile moisture dynamics and wheat production

Characterization to determine the adaptive role of Dehydrins under drought stress in wheat

Development of high yielding rust tolerant wheat Genotypes by using molecular markers

Multiplex Immunoassays for detection of TB

Optimization of Water use by Native Plants in arid lands facing global change and Desertification

Isolation of Plant Growth Promoting Rhizobacteria (PGPR) from Legumes Rhizospher and their in N2 Fixation by Legumes under Rainfed Conditions of Pothwar

Repercussion of depletions in vulture populations on the ecology of the Pothwar Region

Isolation / Identification of Pathogen Bacteria from Buffalo Bulls Semen – development of high efficiency antibiotic combination to improve fertility rate

Identification of Chemically defined extenders for cryo preservation of buffalo bull spermatozoa

Detection of Multiple Anthelimitie Resistance of Nematodes in Small Ruminants Grazing in Barani Region

Phenotypic plasticity of Safflower (Carthamus Tinctorius) in response to environment and integrated nutrient management

Distribution and Management of Root-Knot Nematodes (Meloidogyne spp)

ESTABLISHMENT OF HYDROPONICS RESEARCH & TRAINING CENTER

A hydroponics system for growing vegetables is basically a system where plants can be grown without soil or supported in a soil less growing medium, through which nutrient rich water is passed. This is usually achieved through a system of tubes, which are filled with hydroponics medium such as perlite. Nutrient rich water is passed through the tubes (flowing through the bottom 1/4) and plants are suspended through holes in the top of the tube with their roots in the growing medium.

PMAS-AAUR has taken the possession of an internationally recognized Hydroponics farm at Rawat Rawalpindi. This is one of the unique facilities which have got all
cutting edge technology for production, packaging and marketing of Green houses crops, grown on solution culture only. Hydroponics Plant carries on this business from its five acres green houses located in Rawalpindi, which has integrated facilities that include cold storage, packing and shipping facilities, offices and residences, over an area of 13.5125 acres situated at Kalyam Mughal, Main G.T Road, Rawalpindi. There are infrastructure, green houses, and tunnels & costly hydroponics equipments meant for execution of the production activity of the center. It is imperative to mention here that students of Agriculture, Sciences and Management Sciences will directly get benefit out of this proposed project.

This project is commercial in nature and will generate a lot of benefits for the country, which are as under:

- Commercial production of vegetables on large scale
- Employment generation.
- Foreign Exchange earning.
- Increase in average yield of vegetables i.e. for tomato from 10.1 to 500 ton per hectare.
- Optimization of inputs and outputs in hydroponics production.

PMAS-AAUR is mandate to produce high quality agricultural scientists and to form an organized scientific infrastructure for teaching and research, for the development of arid areas of the country. The University will now be able to produce highly skilled manpower, trained on production of green house crops, which is a need of time. The University will also provide a leadership role and advisory services for tunnel production and green house crops that will ultimately beneficial for students, researchers and farmer community.

**RESEARCH PROJECTS**

The PMAS-AAUR Faculty also undertook Research Projects in addition to teaching assignments. These projects are sponsored by different funding/donor agencies. During 2009, the faculty had fetched 39 Research Projects for Rs. 58.849 millions. The detail of Research Projects is given below:
<table>
<thead>
<tr>
<th>S No</th>
<th>Name of Funding Agency</th>
<th>No of Projects</th>
<th>Total Amount Rs. in Million</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Higher Education Commission</td>
<td>12</td>
<td>37.211</td>
</tr>
<tr>
<td>2</td>
<td>Pakistan Science Foundation</td>
<td>04</td>
<td>2.754</td>
</tr>
<tr>
<td>3</td>
<td>Pakistan Agriculture Research Council</td>
<td>01</td>
<td>1.913</td>
</tr>
<tr>
<td>4</td>
<td>Ministry of Science &amp; Technology</td>
<td>00</td>
<td>0.000</td>
</tr>
<tr>
<td>5</td>
<td>Endowment Fund UAF</td>
<td>01</td>
<td>1.999</td>
</tr>
<tr>
<td>6</td>
<td>International Funding Agencies</td>
<td>02</td>
<td>12.612</td>
</tr>
<tr>
<td>7</td>
<td>University Own Resources</td>
<td>19</td>
<td>2.360</td>
</tr>
<tr>
<td></td>
<td><strong>Total Rs. In Million</strong></td>
<td><strong>39</strong></td>
<td><strong>58.849</strong></td>
</tr>
</tbody>
</table>

So far 53 Research projects were successfully completed by the faculty of this university. The detail is as under:

<table>
<thead>
<tr>
<th>S No</th>
<th>Name of Funding Agency</th>
<th>No of Projects</th>
<th>Total Amount Rs. in Million</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Higher Education Commission</td>
<td>03</td>
<td>2.876</td>
</tr>
<tr>
<td>2</td>
<td>Pakistan Science Foundation</td>
<td>06</td>
<td>4.399</td>
</tr>
<tr>
<td>3</td>
<td>Pakistan Agriculture Research Council</td>
<td>07</td>
<td>15.499</td>
</tr>
<tr>
<td>4</td>
<td>Ministry of Science &amp; Technology</td>
<td>01</td>
<td>29.625</td>
</tr>
<tr>
<td>5</td>
<td>University Own Resources</td>
<td>36</td>
<td>2.64</td>
</tr>
<tr>
<td></td>
<td><strong>Total Rs. In Million</strong></td>
<td><strong>53</strong></td>
<td><strong>55.039</strong></td>
</tr>
</tbody>
</table>

**ADMINISTRATIVE**

In pursuant to good governance and transparency in the system, the meetings of administrative bodies of PMAS-AAUR were held regularly under the Chairmanship of the Vice Chancellor. A participatory approach was adopted in decision making and various academic, developmental and administrative decisions were taken in consultation with all members of committees constituted for the purposes and thereafter, approved by the statutory bodies.

**UNIVERSITY SYNDICATE**

The Syndicate is the highest executive body of the University, which holds it’s meeting as and when required to take up & ratifying the decisions of lower bodies and embark upon decisions of its own. During the reporting period, 04 Syndicate meetings
were arranged and necessary decisions were taken in the best interest of PMAS-AAUR.

ACADEMIC COUNCIL
In year 2009, one meeting of Academic Council was conducted, wherein revised/amended and new curricula for under-graduate and post-graduate studies were discussed and approved. The general rules and regulations pertaining to academic and administration were also argued and the decisions were made for implementation.

FINANCE & PLANNING COMMITTEE
The Finance & Planning Committee collaborated twice in 2009 for resolution of financial issues and authorization of budget. After interactive sessions by the members, budget for the year and other related financial matters were approved.

ADVANCED STUDIES & RESEARCH BOARD
In the academic year 2009, Advanced Studies & Research Board was collaborated in four series of meetings; the board afforded approvals and advised amendments, where necessary, on admission to post-graduate level, synopsis and research titles of post-graduate students, rules and regulations. The Board also scrutinized various research projects and approved/referred for revision.

FINANCIAL RESOURCES
Utmost efforts had been put in to enhance the financial resources of the University. The total budget of PMAS-UAAR for the year 2009-10 was escalated up to Rs. 336.207 millions in comparison to correspondence year’s budget amounting to Rs: 333.456
DEVELOPMENT PROJECTS

The University carried out various plans, formulated strategies & putting in strenuous efforts to enhance the financial resources from avenues outside PMAS-AAUR. Funds were also fetched from the Higher Education Commission of Pakistan under different schemes for establishing/strengthening new departments at PMAS-AAUR. These efforts will create more research facilities for the students and the faculty members.

Development Projects (Completed)  Cost (million Rs.)

- Strengthening of Sports facilities at UAAR  38.885

Total  38.885

Development Projects (On-Going)  Cost (million Rs.)

- Establishment of Faculty of Veterinary & Animal Sciences  468.620
- Strengthening of Department of Entomology  34.783
- Establishment of University Institute of Biochemistry & Biotechnology  358.619
- Development On Farm Students Research Facilities  343.224
- Establishment of R&D Facility in Hydroponics At PMAS-AAUR  52.546
- Strengthening of Department of Wildlife Management 36.141
- Strengthening/ Up gradation of Library Facilities at PMAS-AAUR 41.021

Total 1334.954

Development Projects (Submitted)  

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost (million Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Resource Development at PMAS-AAUR</td>
<td>487.000</td>
</tr>
<tr>
<td>Provision and Up Gradation of Common Facilities at PMAS-AAUR</td>
<td>46.502</td>
</tr>
<tr>
<td>Strengthening of University Institute of Management Sciences</td>
<td>59.403</td>
</tr>
<tr>
<td>Strengthening of Department of Plant Pathology</td>
<td>43.941</td>
</tr>
</tbody>
</table>

Total 636.846
DELEGATES & VISITS

1. Syed Moazzam Nizami, Assistant Professor, Department of Forestry & Range Management visited school of Forest & Ecosystem Science, University of Melbourne, Australia. He stayed there from June 17 to December 31, 2008 under International Research Support Programme of Higher Education Commission of Pakistan.

2. The Department of Wildlife Management conducted a study tour on 16-17 January 2009 to the Lakes of Salt Range. The group visited Kallar Khar, Khabbeki, Jahlar and Ucchali Lakes.

3. The Department of Entomology conducted a study tour for 5th and 7th semester students on 15-17 January 2009 to visit the Department of Entomology at UAF, Ayub Agriculture Research Institute Faisalabad. Insect Museum, Department of Zoology Punjab University Lahore and the School of Biological Sciences Punjab University Lahore.

4. The Faculty of Veterinary and Animal Science conducted a study tour for the students of 5th and 7th semester on January 16-18, 2009 to visit Fodder Research Institute, Sargodha, University of Agriculture, Faisalabad, Livestock Production and Research Institute, Bahadarnagar, Okara and Buffalo Research Institute, Pattoki.


6. Dr. Ousmane Kane, Exective Director, Agrican Regional Center for Technology, Senegal, along with Dr. Anwer Naseem, Chairman National Commission on Biotechnology & Advisor COMSTEC visited Pir Mehr Ali Shah, Arid Agriculture University, Rawalpindi (PMAS-AAUR) on February 12, 2009.

7. 65 Students of Department of Food Technology along with their teachers Prof. Dr. Muhammad Shahbaz Bhatti, Assistant Prof. Dr. M. Anwaar and Lecturer Ms. Farzana Siddique participated in 19th all Pakistan Food Science Conference which was held on 21st February 2009 at PCSIR Laboratories,
Lahore. In the tour group also visited Asian Foods (Confectionery) and K & N’S Food Industry (Meat), Haleeb Foods & Mitchell’s Food Industry (Dairy, Fruits and vegetables Processing), Walls Ice Cream, Reem Rice Industry Muridkay and Noon Sugar Industry Bhalwal.

8. A Conference was organized on April 08, 2009 with collaboration of Italian Cooperation Office and Pakistan Oilseeds Development Board (PODB), Italian Ambassador, Vincenzo Prati was the chief guest at the inaugural session of the conference. Federal Secretary, Ministry of Food & Agriculture, Mr. Muhammad Zia-ur-Rehman and Mr. Kayser Ali shah, Managing Director, Pakistan Oilseed Development Board (PODB) also addressed on the occasion.

9. Punjab Minister for Agriculture Malik Ahmed Ali Aulakh visited PMAS-AAUR on April 10, 2009. On the occasion, Dr. Khalid Mahmood Khan, the vice-chancellor, Director General Agriculture (extension) Dr. Anjum Ali, Director Soil Conservation Malik Abdul Sattar, Director Barani Agriculture Research Institute Chakwal Dr. Abid Mahmood, Director Soil and Water Research Institute Chakwal, Chaudhry Mohammad Akram, EDO Agriculture Rawalpindi Hameedullah Shah and various heads of Agriculture Department were also present.

10. Rawalpindi Chamber of Commerce and Industry (RCCI) delegation headed by Syed Asad Mashadi, President RCCI visited the University on May 20, 2009 to explore the opportunities for the enhancement of the capability of younger generation.

11. An Italian Delegation, Comprising of Mr. Raffaele Del Cima, Mr. Paolo Antonion, Director General, Ministry of Foreign Affairs, Itlay and Luciano Conticini, Director Technical, Institute of Agronomy, Italy visited PMAS-AAUR and discussed the academic and research cooperation with University’s Vice Chancellor.

12. Prof. S. M. Saqlan Naqvi, Chariman Department of Biochemistry, visited Turkey from 5th –15th July 2009. He was invited as a speaker in the International Conference on Plant and Environment 2009 held in Erciyes University. Delegates including two Nobel Laureates from 42 different countries attended the conference. Following the conference Dr. Naqvi also visited Ankara University, Middle East Technical University and Ghazi University to explore avenues for future collaboration.
13. Mr. Nazar Muhammad Gondal, Federal Minister for Food and Agriculture was chief guest at the tomatoes picking ceremony held at Farmer Market Private Limited (FMP)-a hydroponics plant at PMAS-Arid Agriculture University Rawalpindi (AAUR) on August 31, 2009. The Higher Education Commission (HEC), Executive Director, Dr. Sohail H. Naqvi appreciated the University’s efforts.

14. Prof. Dr. Khalid Mahmood Khan S.I. the Vice Chancellor PMAS-AAUR visited United states of America on study tour under Higher education Commission, financial Aid Program (FAD) in November 2009.

15. Prof. Dr. Khalid Mahmood Khan S.I. The Vice Chancellor visited Malaysia to attend the 6th Executive committee and 5th General Assembly Meeting of NASIC Shahalam, Malaysia on 14-12-2009.

16. Prof. Dr. Khalid Mahmood Khan S.I. the Vice Chancellor visited Malaysia to attend the 17th Conference of the Islamic world academy of sciences Sclangor, Malaysia on 14-12-2009 to 17-12-2009.
SEMINARS, WORKSHOPS & CONFERENCES

Seminars, Workshops and Conferences are regular features of universities where experts from various fields are invited to share their experience with faculty, students & various fields are invited to share their experience with faculty, students & researchers on current issues of international and national levels. Such an activity is important for research and academic development of an institution as it provides guidelines for policy development at national level. During 2009, 17 International / National Conferences/ Seminars/ Workshops were held at PMAS-AAUR or attended by Faculty, apart from departmental seminars. A brief detail of each is given below:

1. Miss Saddiqa, Director International Center of studies Exchanges, Islamabad, delivered a seminar on December 31, 2008 at University on “Post Graduate Education Opportunities in State University in Germany”.

2. The Department of Wildlife Management organized two seminars in January 2009. The seminar was delivered by an eminent marine biologist, Dr. Hina Saeed, from National Institute of Oceanography, Karachi, Mr. Nausherwan, Lecturer, Pakistan Forest Institute, Peshawar, introduced his institution to the students and faculty members of this Department. The second seminar was organized in collaboration with Pakistan Wetlands Programme (PWP) and WWF-Pakistan, Islamabad on January 12th, 2009. Mr. Richard Garstang, Chief Technical Advisor/National Programme Manager, PWP gave an impressive insight into the biodiversity of Pakistan. Dr. Ijaz Ahmad, Deputy Director General, WWF-Pakistan, Islamabad, discussed biodiversity conservation issues & Challenges in Pakistan. Mr. Ahmad Khan, Regional Programme Manager, PWP, delivered an informative lecture on “Dynamics of wetlands ecology”. More than 40 students and faculty members participated in this 2 1/2 hours long seminar.

3. The Faculty of Veterinary and Animal Sciences at PMAS-AAUR arranged a seminar on “prevention and Control of Avian Influenza” on January 28, 2009.

4. University Institute of Information Technology (UIIT) organized three seminars, in which eminent scholar delivered lecturer on diverse topics. On the 1st seminar, Prof. Fazal-e-Haque was the speaker and the topic was “Resume and Cover Letter Writing”. In second seminar, Dr. Mazhar Jameel Ph.D. (USA) was the guest speaker. His discussion agenda was “What is
Professionalism”. Third seminar was conducted by Mr. Ansir A. Rajput MBA (Babson College, USA) his topic was “Entrepreneurship Business Management)”. He highlighted the importance of small business enterprises in Pakistan.

5. The Department of Plant Breeding and Genetics on Wheat Production Security in Pakistan arranged a seminar on February 4, 2009. The guest speaker was renowned scientist Dr. Abdul Mujeeb Kazi, Project Director in Wheat Wide Crosses Programme at history, importance and future strategies of its production. The Dean/ Director, Faculty members and postgraduate students of the University, attended seminar.

6. Pir Mehr Ali Shah Arid Agriculture University Rawalpindi (PMAS-AAUR) in collaboration with Italian Cooperation Office and Pakistan Oilseed Development Board (PODB) organized a national conference on “Olive Oil Production in Pakistan; Result and way forward” on April 08, 2009. Italian Ambassador, Vincenzo Prati was the chief guest at the inaugural session of the conference. Federal Secretary, Ministry of Food & Agriculture Mr. Muhammad Zia-ur-Rehman, in his address said that Pakistan is predominantly an agriculture country.

7. The faculty of Veterinary and Animal Sciences organized a seminar on “Rabies treatment and control” on April 09, 2009 at University seminar room. In the seminar National Coordinator of Rabies Prevention & Control Programme at National Institute of Health, Islamabad, Dr. Shahab Akhtar Kazi delivered lecture on rabies prevalence, diagnosis and treatment in humans, while Research Officer at Veterinary Research Institute Lahore Dr. Zafar Qureshi on out break of rabies in mules and In-charge Flury Section at VRI Dr. Haifz Noman delivered lectures on diagnosis of rabies in animals respectively.

8. International Punjabi Conference on “Sufi Heritage of Punjab” was held at PMAS-AAUR on June 04, 2009. Directorate of Student Affairs, PMAS-AAUR in collaboration with Higher Education Commission (HEC), organized the conference. Speaking as a chief guest at the inaugural session of the conference Federal Minister for Religious Affairs, Syed Hamid Saeed Kazmi said Islamic teachings were practically preached by Sufi poets in the
subcontinent. At the concluding session, Pir Noor-ul-Haq Qadri, the Federal Minister for Zaqat and Ushar was the chief guest.

9. During the month of June three different resource person delivered lectures on “Experience on Indian Agriculture” by Prof. Dr. Muhammad Munir Dean, Faculty of Crop and Food Sciences, “Mentoring Research in Higher Education in Pakistan: An Empirical Study of Student’s Perception” by Ms. Almas Kinai, Assistant Professor, Division of Continuing Education and “Role of Biodiversity in Agriculture” Dr. Zahid Akram, Assistant Professor, Department of PBG.

10. Prof. Dr. Nadeem Akhtar Abbasi, Chairman Department of Horticulture attended a five days seminar on “Good Agricultural Practices (GAP) and Safety for Fruit Crops and Vegetables: Managing Food Quality” held at Yogyakarta in Indonesia from 29 June to 3 July, 2009. He presented a country paper on “Implementation of Good Agricultural Practices (GAP) in Horticulture Sector of Pakistan” for improvement of the produce quality and food safety.

11. A one day training workshop on “Participatory Epidemiology and its Application in Developing Countries” was organized by Faculty of Veterinary and Animal Science, in collaboration with participatory Epidemiology Network for Animal and Public Health (PENAPH) on July 09, 2009 at PMAS-AAUR.

12. Dr. Shamim Akhter, Assistant Professor, Department of Zoology has participated in annual conference of “Society for Reproduction and Fertility” held from 12-14 July 2009 at Oxford. Dr. Shamim Akhter presented her work on “Glutathione supplementation to improve the quality of cryopreserved buffalo (Babalus Bubalis) bull Semen”.

13. A 24 days Teachers training workshop form 27th July to 22nd August 2009 for Competency Enhancement of Teachers was held at PMAS-AAUR in collaboration with National Academy of Higher Education, Higher Education Commission (HEC). Ms. Noor Amna Malik, Director General, National Academy of Higher Education, HEC, while, addressing said that teaching cannot be defined merely to class room, and education is not a process in which only small groups of students participate.
14. University faculty members Prof. Dr. Saif Ullah Ajmal, Chairman, Department of PBG, Prof. Dr. S. M. Saqlan Naqvi, Chairman, Department of Biochemistry, Dr. Ghulam Jilani, Associate Prof., Dr. Tariq Siddeeq, Assistant Prof. and Dr. Riffat, Lecturer Department of Soil Science participated in International Conference on “Advance in Agriculture: Prospects and Potentials of Natural Resources in Food Security”. The conference was held at faculty of Agriculture University of Azad Jammu Kashmir Rawalkot on August 11-13, 2009.

15. International Conference on “Advance in Agriculture: Prospects and Potentials of Natural Resource in Food Security” was held at faculty of Agriculture University of Azad Jammu Kashmir Rawalkot on August 11-13, 2009. Faculty members of the University presented their research papers. Prof. Dr. Saif Ullah Ajmal and Prof. Dr. S. M. Saqlan Naqvi also chaired various technical sessions in the conference.

16. Prof. Dr. Siaf Ullah Ajmal, Chairman, Department of Plant Breeding and Genetics attended three days training workshop, organized by Crop Disease Research Programme, NARC on August 14-16, 2009. Prof. Dr. Robert Park from University of Sydney, Australia, Dr. A. Mujeeb Kazi and Senior Scientists addressed the participants.

17. An International workshop on “Plant Conservation and Reversing Desertification: A way Forward” marked the Italian Ministry of Foreign Affairs. The workshop was held at PMAS-AAUR on October, 13-14, 2009, under the collaborative project of Department of Environmental Sciences & Institute of Agro-Environment and Forest Biology (IBAF), National Research Council (CNR), Italy. Workshop contained four technical sessions. Besides, an eminent scientist from Italy, Dr. Mauro Centritto who is the backbone of the project, and scientists from USA, UK and China also delivered their research papers regarding conservation, combating desertification and climate change which are the most serious issues of today.

18. A seminar on “Promotion of Rain Water Harvesting in EqAAs” delivered by Mr. S. Zaheer Hussain Gardezi, Director General, Water and Sanitation ERRA, on October 19, 2009 at University Seminar room.
19. A thirteen member’s delegation led by Prof. Dr. Fayyaz ul Hassan Department of Agronomy participated in conference on “Sustainable Food Grain production: Challenges and opportunities” held at University of Agriculture Faisalabad. (UAF) from 26-27 October, 2009 organized by Pakistan Society of Agronomy.

20. Prof. Dr. Nemat Ullah, Dean Faculty of Veterinary and Animal Sciences (FV & AS), Associate Prof. Dr. Manzoor Hussain, Prof. Dr. Tanveer Ahmed, Assistant Prof. Dr. M. Farooq Iqbal and Dr. Kahhif Ishaq, Lecturer in FV & AS attended 6th Asian Buffalo Congress held at Lahore from October 27 to 30, 2009.

21. International Conference on Gender Participation in the development of Science from November 14-15, 2009 at Dhaka, Bangladesh. The Theme of the conference was Women Scientists for Development.
## STUDENTS EXTRA CURRICULAR ACTIVITIES

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<tr>
<th>S #</th>
<th>Particulars</th>
<th>Date</th>
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<tbody>
<tr>
<td>1.</td>
<td>Essay Competition</td>
<td>1\textsuperscript{st} January, 2009</td>
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<td>2.</td>
<td>“Islam Zinda Hota ha har Karbla ke Baad”</td>
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<td>3.</td>
<td>(In connection with Ashura Moharram)</td>
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<td>4.</td>
<td>English Speech Competition (Education for All)</td>
<td>15\textsuperscript{th} January, 2009</td>
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<td>5.</td>
<td>Poster Competition</td>
<td>28\textsuperscript{nd} – 29\textsuperscript{th} Jan, 2009</td>
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<td>6.</td>
<td>Celebration of Eid Melad-un-Nabbi &amp;</td>
<td>12\textsuperscript{th} – 18\textsuperscript{th} Mar, 2009</td>
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<th>S #</th>
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<td>8.</td>
<td>Students’ Week 2009</td>
<td>14\textsuperscript{th} – 18\textsuperscript{th} April, 2009</td>
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<td>9.</td>
<td>6\textsuperscript{th} All Pakistan Bilingual Declamation Contest 2009</td>
<td>20\textsuperscript{th} – 21\textsuperscript{st} May, 2009</td>
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<td>10.</td>
<td>Health Awareness Campaign</td>
<td>26\textsuperscript{th} May, 2009</td>
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<td>11.</td>
<td>Punjabi Conference 2009</td>
<td>03\textsuperscript{rd} June, 2009</td>
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<td>12.</td>
<td>Environment Day</td>
<td>06\textsuperscript{th} June, 2009</td>
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<td>13.</td>
<td>Writing, painting, software and speech competitions</td>
<td>18\textsuperscript{th} June, 2009</td>
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<td>14.</td>
<td>Students Counseling &amp; Training sessions</td>
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<tr>
<td></td>
<td>a. Participate in Art activities</td>
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<td></td>
<td>b. You may be a good Speaker</td>
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<td>c. Performance training</td>
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<td>d. Leadership development through co-curricular activities</td>
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<td>e. Best Use University facilities</td>
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<td>f. How to get good grades in exams</td>
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<td>15.</td>
<td>Creative Leader’s Conference 2009</td>
<td>05\textsuperscript{th} – 08\textsuperscript{th} July, 2009</td>
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<td>16.</td>
<td>Orientation for new Enrolled students</td>
<td>08\textsuperscript{th} October, 2009</td>
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<td>17.</td>
<td>Qiraat &amp; Naat Competition</td>
<td>15\textsuperscript{th} October, 2009</td>
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<td>18.</td>
<td>Leadership Development Workshop</td>
<td>29\textsuperscript{th} October, 2009</td>
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<td>19.</td>
<td>Essay/Story writing Competition</td>
<td>05\textsuperscript{th} November, 2009</td>
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<td>20.</td>
<td>2\textsuperscript{nd} Creative Leaders’ Conference</td>
<td>13\textsuperscript{th} – 15\textsuperscript{th} Nov, 2009</td>
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<td>21.</td>
<td>Art Exhibition</td>
<td>17\textsuperscript{th} December, 2009</td>
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<td>22.</td>
<td>Video Making Competition</td>
<td>17\textsuperscript{th} December, 2009</td>
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<td>23.</td>
<td>Lecture on Health Care – Stress Management</td>
<td>17\textsuperscript{th} December, 2009</td>
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<td>24.</td>
<td>Bilingual Declamation</td>
<td>31\textsuperscript{st} December, 2009</td>
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SPORTS ACTIVITIES

The Directorate of Sports conducted trials for PMAS-AAUR teams and arranged coaching classes respectively. The university teams undertook the following sports events during the year 2008.

1. Participated in Table Tennis (Boys) Championship at LUMS, from December 13-16, 2007.
4. Participated in Athletics (Boys) competition at Punjab University Lahore from February 27-30, 2008.
5. Participated in Football (Boys) Championship at Islamic International University Islamabad from February 20-24, 2008.
8. Participated in Volley Ball (Boys) at Islamic International University Islamabad from April 19-20, 2008.
10. Participated in Hiking (Boys/Girls) Inter Department Competitions at Margalla Hills Islamabad on April 07, 2008
11. Inter Department Sports Competitions 2008 (Boys/Girls) during the Students Week at PMAS-AAUR was organized by the Directorate of Sports in April 2008.
UNIVERSITY PUBLICATIONS

PAKISTAN JOURNAL OF ARID AGRICULTURE
In order to infuse a culture of publications among the faculty and research students the charges for publication in the journal were revised. Any student who intends to publish will be charged at subsidized rate, while faculty members can publish one paper free of cost per journal as first author of the journal. The journal is circulated to about 80 different organizations in the country and 10 international organizations without price.

PMAS-AAUR-NEWS
In order to have a close contact with community and activities at university “PMAS-AAUR NEWS” is published on monthly basis. This is widely circulated among students, faculty and to all sister organizations.

NAVEED-E-BARAN
This magazine is an annual publication which caries creative contribution from students and is managed by an Editorial Board mainly comprised of students.

STUDENT DISSERTATIONS
Three Hundred and Twenty five (325) theses were delivered during 2009 by postgraduate students of the university out of which Twenty-Eight (28) theses were received on account of PhD degrees.

FACUTLY PUBLICATIONS
The University Faculty published 190 Research papers in 2009 in the National & International journals (List is placed at appendix-I).
(APPENDIX-I)

FACULTY PUBLICATIONS 2009


42. Ansari, M.S., Rakha, B.A., Ullah, N., Andrabi, M.S.H. and **Shamim Akhter**. 2009. Glutathione addition in Tris-egg Yolk Extender improves the quality of cooled buffalo (**Bubalus bubalis**) bull semen. Pak. J. Zool. (Accepted)

43. Ansari, M.S., Rakha, B.A., Ullah, N., Andrabi, S.M.H., Khalid, M. and **Akhtar, S.** 2009. Effect of L-Cysteine in Tris-citric Egg yolk extender on post thaw quality of Nili-Ravi Buffalo (Bubalus bubalis) bull spermatozoa. (Accepted; manuscript No. PJZ-98-09)


69. Glutathione addition in tris-egg yolk extender improves the quality of cooled buffalo (*Bubalus bubalis*) bull semen. Pakistan Journal of Zoology. (In press; Impact factor: 0.189)


87. Inam-ul-Haq, M.N. Javed, M. Ahsan Khan, M.J. Jaskani, M.M. Khan, H.U. Khan,


130. Muhammad Hanif, Mukhtiar Hussain, Saqib Ali, Moazzam H. Bhatti, Muhammad Sheeraz Ahmad, Bushra Mirza and Helen S. Evans: *In Vitro* Biological studies and structural elucidation of Organotin(IV) derivatives of 6-nitropiperonylic acid: Crystal Structure of {[(CH$_2$O)$_2$C$_6$H$_2$(o-NO$_2$)COO]SnBu$_2$}$_2$O}. Polhedron (2009), DOI:10.1186/1743 422X 6183.


151. Naheed Akhtar, Noreen Moin, Ata ul Mohsin, Ghulam Jilani, Azra Naseem, Javed Khan, Shaheena Yasmin, Irshad Begum, Afzala


198. Sajid M and M. Gulfranz. 2009. Ethanol production from Sorghum bicolor by using both Separate and Simultaneous Saccharification and


