

DIRECTORATE OF ADVANCED STUDIES
EVENT CATALOGUE
2019-20

RESEARCH DAY FOR PHD STUDENT
(6th – 8th August 2019)



NOTIFICATION



PIR MEHR ALI SHAH
ARID AGRICULTURE UNIVERSITY RAWALPINDI
DIRECTORATE OF ADVANCED STUDIES
Email: das@uaar.edu.com Ph. # 92-51-9292118

No. PMAS-AAUR/DAS/ 568

26 July, 2019

NOTIFICATION

Subject: CONDUCT OF RESEARCH DAY FOR PHD STUDENT

The Competent authority has been pleased to approve the following schedule to conduct a research day for exhibition of research work of PhD students in the form of poster presentations.

The schedule of research day is as under:-

Tuesday: 6th August 2019

All the PhD students of

- 1- Faculty of Veterinary and Animal Sciences
- 2- University institute of Bio-chemistry and Bio-technology
- 3- Department of Agronomy Faculty of FC&FS
- 4- Food Technology
- 5- Plant Pathology
- 6- Department of wild life management (FR&WL)

Wednesday: 7th August 2019

All the PhD students of

- 1- Department of Economics & Agri Economics and Education (Faculty of Social Sciences)
- 2- Faculty of Agriculture Engineering and technology
- 3- Department of Botany Faculty of Sciences
- 4- Department of Horticulture (FC&FS)
- 5- Department of Entomology (FC&FS)
- 6- Department of Environment Sciences (FR&WL)

Thursday: 8th August 2019

All the PhD students of

- 1- Department of Sociology (Faculty of Social Sciences)
- 2- Institute of Geo informatics and earth observation (IGEO)
- 3- Department of Zoology/Biology Faculty of Sciences
- 4- Department of Plant Breeding (FC&FS)
- 5- Institute of Soil Sciences (FC&FS)
- 6- Department of Forestry (FR&WL)
- 7- University institute of Information technology
- 8- University institutes of Management sciences

The sop's are as under: -

1. All the PhD scholars will prepare the poster of their research activities including brief introduction of synopsis and updated research work done with results
2. All the supervisor and PhD Students will ensure their presence on the research day to brief the committee
3. Poster will be displayed in the concerned department
4. The size of poster is 4ft wide and 3 ft high. Minimum recommended text size are "8.5pt" font for main title, 36pt for sub heading, 24pt for body text and 18 pt for captions (Sample is also attached)

Dr Muhammad Azam Khan
Director

Distribution

1. PS to Vice Chancellor
2. Pro Vice Chancellor
3. All Deans of the Faculties
4. All Directors of the Institutes
5. All Chairperson of Teaching Departments
6. Director, QEC
7. Director, ORIC

ACTIVITIES OF DAY – 1

PIR MEHR ALI SHAH
ARID AGRICULTURE UNIVERSITY RAWALPINDI
DIRECTORATE OF ADVANCED STUDIES
Email: das@uaar.edu.pk Ph. # 051-9292118

No. PMAS-AAUR/DAS/2629

02 August, 2019

NOTIFICATION

Subject: COMMITTEES FOR RESEARCH DAY OF PH.D. STUDENT

The following committees has been approved by the Competent Authority for evaluation of research day as mentioned against each department.

Tuesday: 6th August 2019 (09:00 a.m)

All the PhD students of

Name of Department	Committee Members
Faculty of Veterinary and Animal Sciences	1. Director QEC 2. Department's Research Advisor for post graduate Research
University institute of Bio-chemistry and Bio-technology	1. Director ORIC 2. Department's Research Advisor for post graduate Research
Department of Agronomy Faculty of FC&FS	1. Pro Vice Chancellor 2. Department's Research Advisor for post graduate Research
Food Technology	1. Dean FSS 2. Department's Research Advisor for post graduate Research
Plant Pathology	1. Prof. Dr. Mazhar Qayyum 2. Department's Research Advisor for post graduate Research
Department of wild life management (FR&WL)	1. Dean FV&AS 2. Department's Research Advisor for post graduate Research

1. The committee will observe the poster presentation and complete the attached Performa after discussion with student and supervisor.
2. The committee will give its recommendations to improve the research facilities and back draws of the concerned department, student and faculty member.


Dr. Muhammad Azam Khan
Director

Distribution

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2. Pro Vice Chancellor
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5. All Chairperson of Teaching Departments
6. Director, QEC
7. Director, ORIC

DAY - 1

ECOLOGY OF PIGEONS AND DOVES IN AND AROUND MARGALLA HILLS NATIONAL PARK, ISLAMABAD

Ph.D Scholar: S. M. Khalid Imran
Research Supervisor: Dr. Tariq Mahmood
Department of Wildlife Management, PMAS- Arid Agriculture University, Rawalpindi

Introduction

- Pigeons and doves - order: Columbiformes, family: Columbidae - 5 subfamilies, Genes: 42, Species: 300
- In Pakistan, 3 genera - *Columba*, *Streptopelia* and *Turtur* - 15 species - 5 reported in MHNP (Roberts, 1991)
- Morphology: 15 - 75 cm long, seed-eaters, dull, but-eyes bright in colour - with ornamentation
- Ecological Importance of Columbiformes**
- Predatory birds:** Large number of birds of prey, carnivorous omnivore mammals and reptiles feed on adults, young and even eggs.
- Seed dispersal agents:** For a number of plant species.
- Insect population control:** Many doves control insect population by feeding on them, though they feed on grains but also feed on insects, hence are beneficial too for crop growth
- Natural fertilizers:** Their excreta being a good nitrogen source, fertilize the soil
- Game Birds:** They are important game birds and are hunted.

Objectives

- To study diversity and distribution of pigeons and doves (Columbiformes) in the MHNP Islamabad.
- To investigate the habitat of various species of pigeons and doves in the study area.
- To study the feeding habits of various species of pigeons and doves in the park.
- To study the breeding patterns in various species of Pigeons and doves found in the park.

Methodology

Study Area

- The MHNP lies in Islamabad Capital territory at 33°47'N and 72°55'E.
- Covers an area of 37,386 hectares (UNDP/ICM/MINIA/CA, 1991).
- Typical semi-arid - moderate summer and winter.
- Tropical, monsoonal and sub-humid. The mean maximum winter temperature is 21°C, the mean minimum of 14°C. Several temperatures often falling below 0°C.
- Topography: rugged, elevation range: 529-1580 m
- Crops: wheat, maize and mustard.

Natural Forests

Acacia catechu, *Acacia nilotica*, *Acacia modesta*, *Banksia variegata*, *Butea monspersia*, *Cassia fistula*, *Ficus carica*, *Olea ferruginea*, *Pinus rostrata* and *Quercus leucotrichophora*.

Herbs

Corchorus spicatus, *Calotropis procera*, *Dodonaea viscosa* and *Justicia adhaesifolia*.

Herbs

Alium parvifolium, *Arundo donax*, *Canna lily*, *Clematis barberti*, *Geranium ovatum*, *Hibiscus carnosus*, *Penstemon orientale*, *Saccharum spontaneum*, *Tulipa stellata* and *Typha elephantina* (Ayaz, 2005).

STUDY I: DIVERSITY AND DISTRIBUTION OF PIGEONS AND DOVES IN STUDY AREA

Observation: Biotopes, Tolerant to open, well-cared and dry climate.

Identification: Field Guides - The Birds of Pakistan (Roberts, 1991) and literature available, online.

Diversity, distribution, density and abundance estimates:

Two methods:

- 1-Bird side count: Thorough survey on the road network situated at MHNP
- 2-Point count method: Based on 3 types of selected environments, at MHNP

STUDY II: INVESTIGATION OF HABITAT OF DOVES AND PIGEON IN THE STUDY AREA

Following important parameters for habitat study are being recorded:

- Type of vegetation used for roosting or nesting
- Type of structure or building used for roosting or nesting
- Height of the nest for different species
- GPS locations of the nest or roost

STUDY III: FEEDING HABITS OF PIGEONS AND DOVES IN THE STUDY AREA

Direct observation: Photographs

Feecal droppings

Examination of digestive tract

Results

The Blue Rock Pigeon, Eurasian Collared Dove and Little Brown Dove were found as resident species in the study area, where as Turtle Dove, Spotted Dove and Wood Pigeon were found as visitor species in the study area. The main food taken by pigeons and doves was cereal seeds, plant material, grit and occasionally insects.

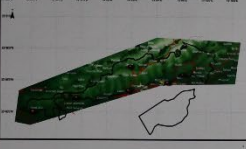


Figure 1: Map of MHNP showing its various localities (WWF Pakistan, 2009)



Figure 2: Collared Dove



Figure 3: Little Brown Dove



Figure 4: Turtle Dove



Figure 5: Photograph showing the study area: Margalla Hills (Pine, Deciduous and Scrub forest), Rawal lake (wetland), Islamabad and Rawalpindi (urban area), and adjacent villages (crop lands)



Figure 6: Blue Rock Pigeon



Figure 7: Spotted Dove



Figure 8: Wood Pigeon

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- Ayaz, S. (2005). *Ecological assessment and Identification of Core Biodiversity Zones in Margalla Hills National Park*. Ph.D. thesis, Islamabad.
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- Roberts, T. (1991). *The Birds of Pakistan, Volume 1: Regional Studies and Non-passerines*. Oxford University Press, Karachi, Pakistan.
- UNDP/ICM/MINIA/CA. (1991). Margalla Hills Management Plan (Second Draft). Dan Taylor, Consultant.

Acknowledgements

1. Prof. Dr. Mirza Asghar Beg
2. Dr. Tariq Mahmood
3. Dr. Muhammad Razi
4. Dr. Muhammad Sajid Nadeem

PHYSIO-MORPHIC EXPRESSION OF SINAPIS ALBA IN RESPONSE TO AGRO-MANAGEMENT TECHNIQUES

Student name: Ghulam Muhammad, Research Supervisor: Dr. Abdul Manaf
Department Name: Agronomy

Introduction

Pakistan is facing chronic deficiency of edible oil, 80% edible oil is imported. White mustard (*Sinapis alba*) is a new oil seed crop and an alternative oilseed crop for low rainfall and dryland conditions. It belongs to Brassicaceae family and also referred as Brassica oleracea and Brassica napus. It is a hardy crop and has been growing in arid regions (Siddiqui & Latif, 1991). The crop fits well in the existing cropping system of arid region and has higher yield potential than sunflower which receives less than 12 inches precipitation annually (Hassan et al., 2012). The extensive root system enables white mustard to extract moisture from soil, about 50% moisture taken up from 1 foot below soil surface (Shah et al., 2002). However, being exotic, so far no study has been undertaken on this potential crop. Sowing time is the most vital non-chemical input to achieve various zones of the country. Previous studies have shown that the plant density is an important factor affecting white mustard yield as it controls the yield components. Uniform distribution of plants per unit area is vital requirement for yield stability (Dijkshoorn, 2000). Plant spacing affects light absorption, temperature, precipitation interception, soil moisture and moisture. Reduction of light in row crops may be influenced by canopy parameters (leaf, shape, orientation of shoot components and row spacing) (Aron et al., 2011). Similarly narrow row spacing along with less plant spacing results in higher plant populations under rain fed conditions (Nawrothy and Ennos, 2015). Hence, to obtain economical yield, optimum row and plant spacing is to be maintained. To meet the ever-growing demand of edible oils in the country, the gap is to be bridged through management techniques.

Keeping in view the importance of *Sinapis alba* as potential oilseed crop present study was being planned with following objectives:

- Evaluating the adaptability of *Sinapis alba* in Pakistan.
- Documenting the response of *Sinapis alba* to different agro-management techniques.
- Optimizing the site specific production technology for the farmers.

Methodology

The field experiments were carried out during Rabi seasons 2017-18 and 2018-19 to evaluate the adaptability of *Sinapis alba* under varying environment at three locations of punjab province viz. Islamabad (latitude of 33.40° N and 44.20° E, 499 meters elevation above the sea level with annual rainfall of 1000 - 1200 mm), Soil and water Conservation Research Institute, Chakwal (latitude 33.37° N, longitude 72.37° E and 440 meters above sea level with annual rainfall of 450 - 750mm) and Talagang (latitude 32.39° N, longitude 72.8° E, latitude with 523 meter elevation with annual rainfall of 350 - 450 mm). The details of experiments are as follows:

Experiment 1: Productivity Performance of Sinapis alba under varying environments and sowing dates

To evaluate the best sowing window for *Sinapis alba* field trial was carried out in 2017-18 and 2018-19 at NARC, Islamabad, SAWCRI Chakwal and Talagang. Crop was sown on six different sowing dates viz. 1st Oct, 15th Oct, 1st Nov, 15th Nov and 1st Dec and 15th Dec with 15 days interval during both the years. The treatments were arranged in RCBD with four replications. The size of plot was 1.8 m x 5 m. The crop was planted with single row hand drill and seed was sown @ 5 kg ha⁻¹, R.R. distance 45cm and P.P. distance 15cm were kept after thinning. Replications were separated from each other by 2 m distance in order to have access for plant sampling. At the time of last ploughing fertilizer dose of NPK(70-35-25 kg ha⁻¹) was incorporated in the soil at DAP, Urea and SSP respectively.

Experiment 2: Productivity Performance of Sinapis alba Under Different Agro-techniques

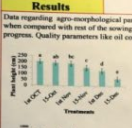
To determine the appropriate seed rate and row spacing for *Sinapis alba* field trials were carried out in 2017-18 and 2018-19 at SAWCRI Chakwal. The experiments were laid out with factorial treatments in four replications. Three seed rates (2.5, 5.0 and 7.5 kg P.P. ha⁻¹) and three row spacings (30, 45 and 60 cm) were maintained in main and sub plots. The seeds were planted manually. At the time of last ploughing fertilizer dose of NPK(70-35-25 kg ha⁻¹) was incorporated in the soil at DAP, Urea and SSP respectively.

Experiment 3: Evaluation of Sinapis alba Under varying Nutrients

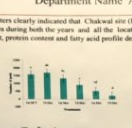
The effect of nitrogen and phosphorus on seed yield and oil quality of *Sinapis alba* was determined by field trials at SAWCRI Chakwal during 2017-18 and 2018-19. Nitrogen fertilizer (dissolved) 25 kg ha⁻¹ was incorporated in the respective plots according to the treatments except control. The treatments were arranged in RCBD with four replications. The size of plot was 2.7 m x 5 m. The crop was planted with single row hand drill and seed was sown @ 5 kg ha⁻¹, R.R. distance 45cm and P.P. distance 15 cm were kept after thinning.

Results

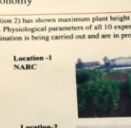
Data regarding agro-morphological parameters clearly indicated that Chakwal site (Location 2) has shown maximum plant height, maximum number of pods plant⁻¹ and yield. Biological yield, harvest index, in the 15 Oct sowing window when compared with rest of the sowing dates during both the years, and all the locations. Physiological parameters of all 10 experiments have been collected in statistically being analyzed. Validation of data and interpretation of results are in progress. Quality parameters like oil content, protein content and fatty acid profile determination is being carried out and are in progress and will be presented in next session.



Location-1 NARC



Location-2 SAWCRI



Location-3 Talagang Farmer field



Conclusion

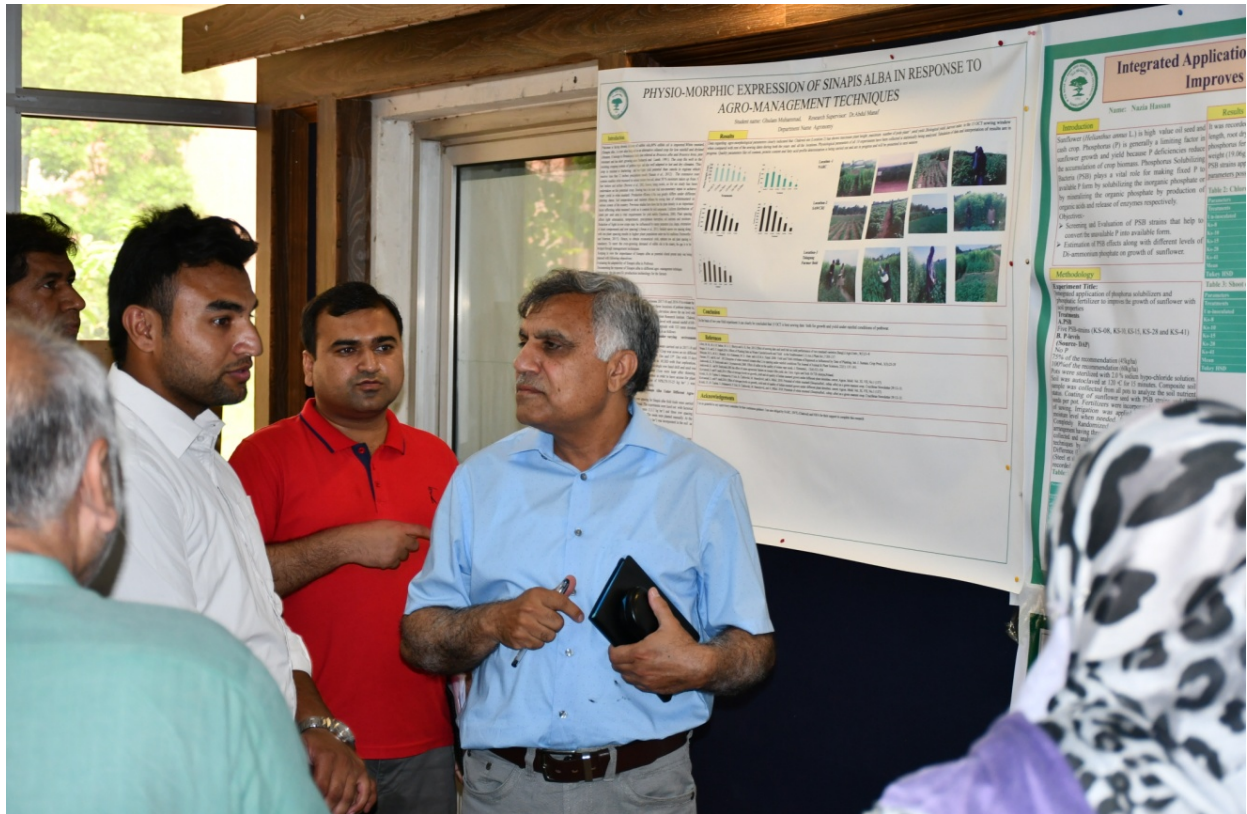
On the basis of two year field experiment it can clearly be concluded that 15 Oct is best sowing date both for growth and yield under rainfed conditions of punjab.

References

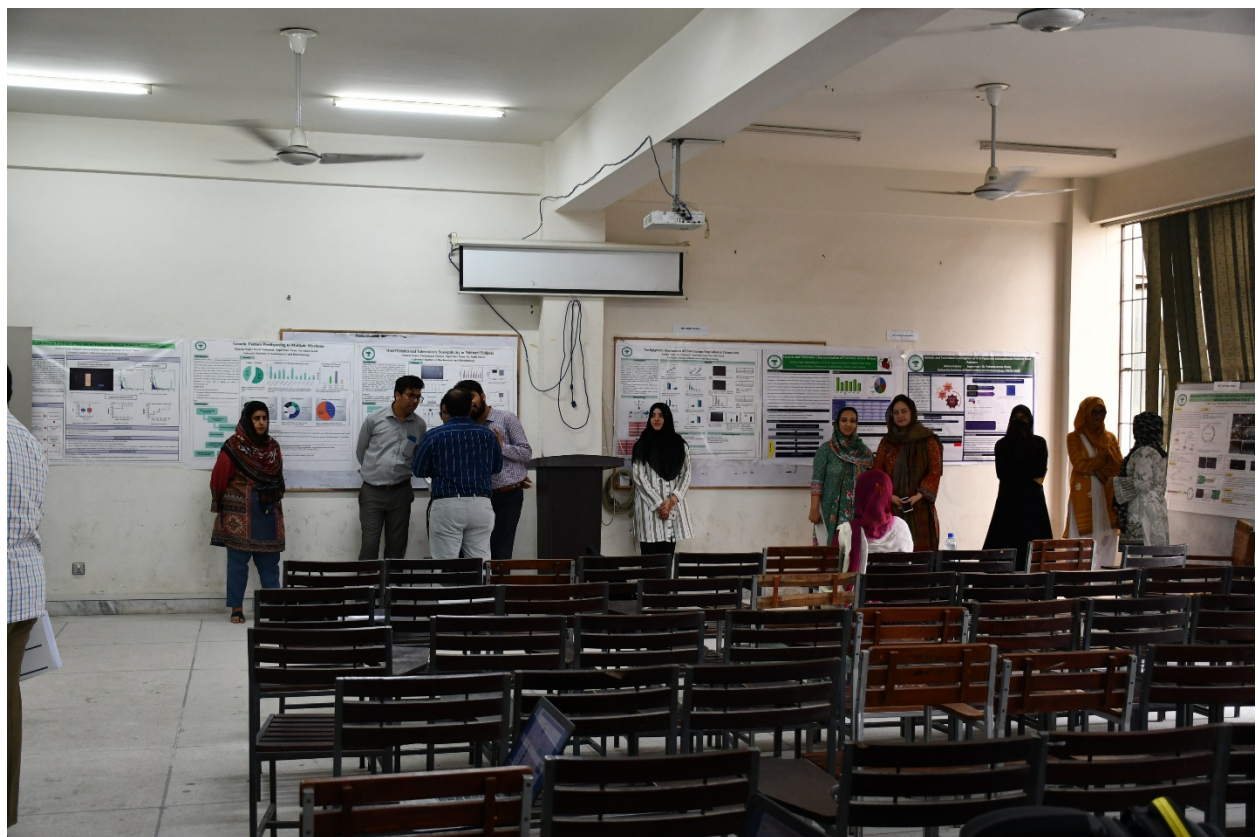
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- Jadavski, K., W. Bialycki and A. Szewczyk, 2006. Effect of sowing date on the quality of winter rapeseed. *Acta Agr. Silv. Hort. 10:728-730 (Poland)*.
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- Karim, S. and P. Singh, 2014. Effect of sowing date on growth, yield and oil quality of winter mustard (*Sinapis alba* L.) in a semi-arid region. *Crop Science*, 54(1): 1-13.
- Karim, S. and P. Singh, 2014. Effect of sowing date on growth, yield and oil quality of winter mustard (*Sinapis alba* L.) in a semi-arid region. *Crop Science*, 54(1): 1-13.
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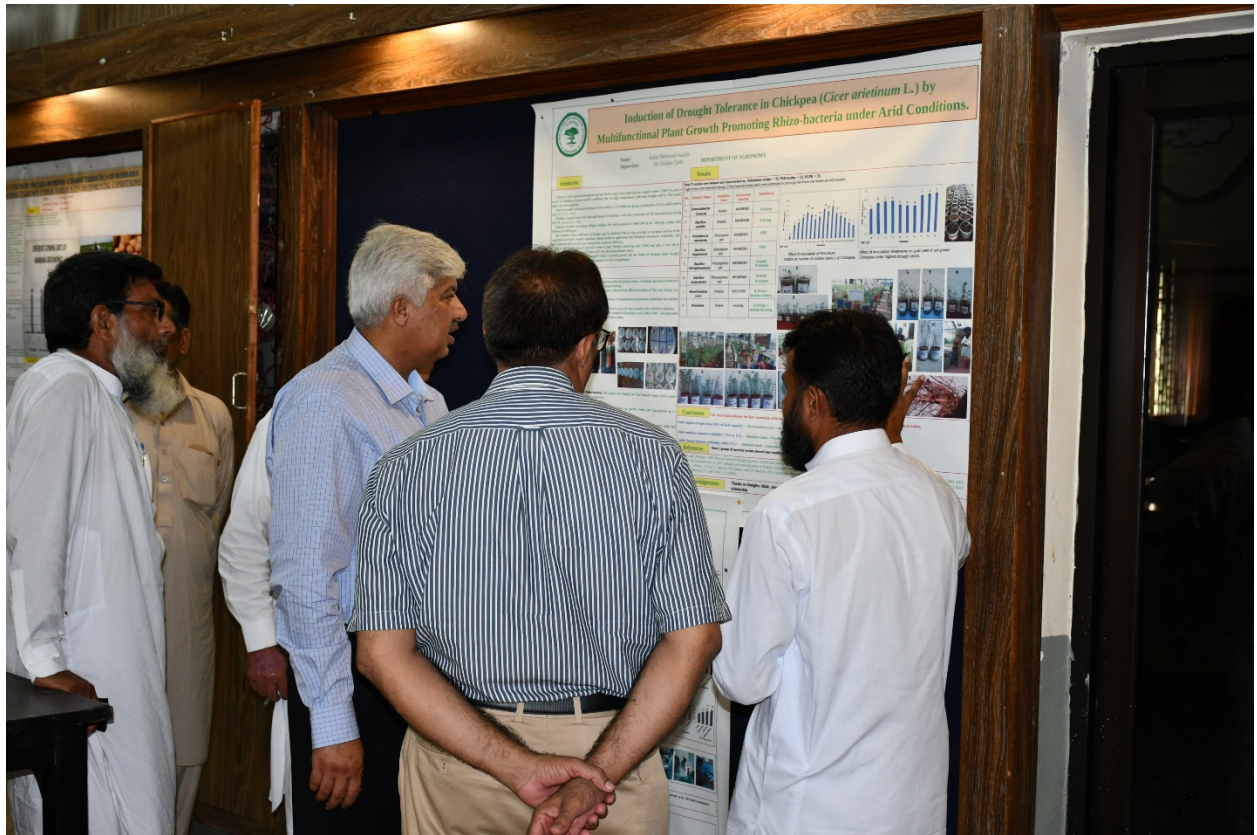
Acknowledgements

I am so grateful to my supervisory committee for their continuous guidance. I am also obliged by NARC, SAWCRI (Chakwal) and NIFA for their support to complete this research.











ACTIVITIES OF DAY – 2

PIR MEHR ALI SHAH
ARID AGRICULTURE UNIVERSITY RAWALPINDI
DIRECTORATE OF ADVANCED STUDIES
Email: das@uaar.edu.pk Ph. # 051-9292118

No. PMAS-AAUR/DAS/2630

02 August, 2019

NOTIFICATION

Subject: COMMITTEES FOR RESEARCH DAY OF PH.D. STUDENT

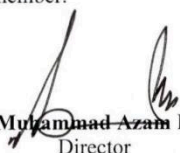
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Wednesday: 7th August 2019 (09:00 a.m)

All the PhD students of

Name of Department	Committee Members
Department of Economics & Agri Economics and Education (Faculty of Social Sciences)	1. Director QEC 2. Department's Research Advisor for post graduate Research
Faculty of Agriculture Engineering and technology	1. Prof. Dr. Mobushir Riaz Khan 2. Department's Research Advisor for post graduate Research
Department of Botany Faculty of Sciences	1. Director ORIC 2. Department's Research Advisor for post graduate Research
Department of Horticulture (FC&FS)	1. Dean Faculty of Sciences 2. Department's Research Advisor for post graduate Research
Department of Entomology (FC&FS)	1. Pro Vice Chancellor 2. Department's Research Advisor for post graduate Research
Department of Environment Sciences (FR&WL)	1. Dean FC&FS 2. Department's Research Advisor for post graduate Research

1. The committee will observe the poster presentation and complete the attached Performa after discussion with student and supervisor.
2. The committee will give its recommendations to improve the research facilities and back draws of the concerned department, student and faculty member.

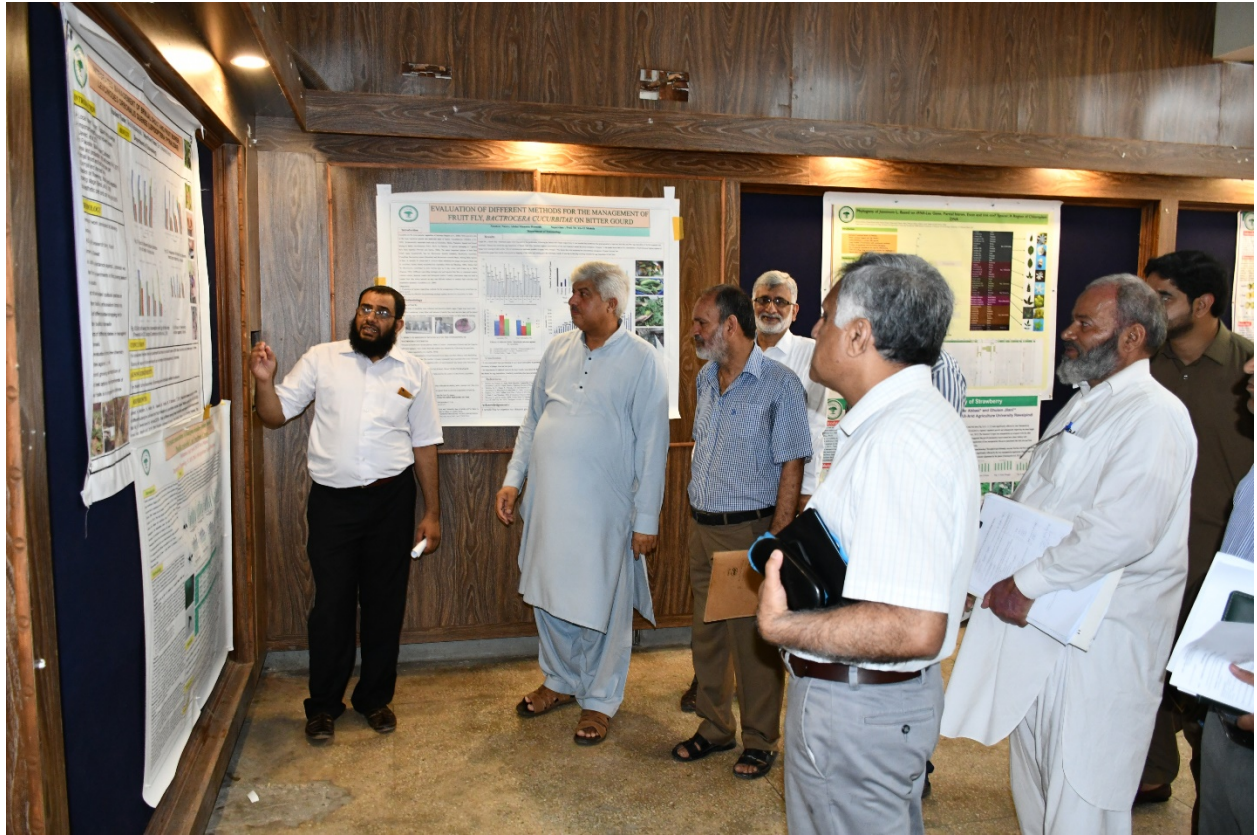

Dr. Muhammad Azam Khan
Director

Distribution

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6. Director, QEC
7. Director, ORIC

DAY – 2





ACTIVITIES OF DAY – 3

PIR MEHR ALI SHAH
ARID AGRICULTURE UNIVERSITY RAWALPINDI
DIRECTORATE OF ADVANCED STUDIES
Email: das@uaar.edu.pk Ph. # 051-9292118

No. PMAS-AAUR/DAS/2631

02 August, 2019

NOTIFICATION

Subject: COMMITTEES FOR RESEARCH DAY OF PH.D. STUDENT

The following committees has been approved by the Competent Authority for evaluation of research day as mentioned against each department.

Thursday: 8th August 2019 (09:00 a.m)

All the PhD students of

Name of Department	Committee Members
Department of Sociology (Faculty of Social Sciences)	1. Director QEC 2. Department's Research Advisor for post graduate Research
Institute of Geo informatics and earth observation (IGEO)	1. Dean Faculty of Social Sciences 2. Department's Research Advisor for post graduate Research
Department of Zoology/Biology Faculty of Sciences	1. Prof. Dr. Abdul Waheed 2. Department's Research Advisor for post graduate Research
Department of Plant Breeding (FC&FS)	1. Pro Vice Chancellor 2. Department's Research Advisor for post graduate Research
Institute of Soil Sciences (FC&FS)	1. Pro Vice Chancellor 2. Department's Research Advisor for post graduate Research
Department of Forestry (FR&WL)	1. Dean FC&FS 2. Department's Research Advisor for post graduate Research
University institute of Information technology	1. Director ORIC 2. Department's Research Advisor for post graduate Research
University institutes of Management sciences	1. Director ORIC 2. Department's Research Advisor for post graduate Research

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Dr. Muhammad Azam Khan
Director

Distribution

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DAY – 3

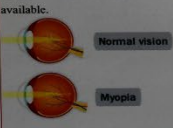


IDENTIFYING THE CAUSAL VARIANTS OF MYOPIA IN A FAMILIAL COHORT OF PUNJAB DESCENT BY WHOLE EXOME SEQUENCING

AINEE ZAFAR, DR. ABIDA ARSHAD
DEPARTMENT OF ZOOLOGY

INTRODUCTION

Myopia is an optical refractive error that causes blurred vision. It occurs when parallel light rays passing through the eye focuses in front of the retina (Pizzarello et al. 2004). According to one estimate, by the year 2020 and 2050, about 2.5 billion people and about half of the world's population will be myopic, alone ((Kempen et al. 2004). In Pakistan, every one in four person suffers from myopia (Noureen et al., 2016). The predisposition of myopia is affected by both genetics (Yang, 2009) and environmental factors (Guo et al. 2013). However, hereditary factors contribute significant role in majority of the observed variance of myopia within populations (Kiefer et al. (2013). Various molecular based research studies including exome sequencing has identified more than 25 different genes involved in visual impairment caused by Myopia (Jin et al. 2017). Pakistan comprises of multi ethnic populations and this heterogeneity leads to development of a unique genetic pool. The disorder burden is going to increase due to unattended root causes and failure therapeutic strategies (Ansari et al., 2007). Therefore, an immediate action is required in identifying causal variants of genes regulating myopia with exome sequencing so that appropriate diagnosis and treatment can be made available.



ROLE OF GENETICS IN DEVELOPMENT OF MYOPIA

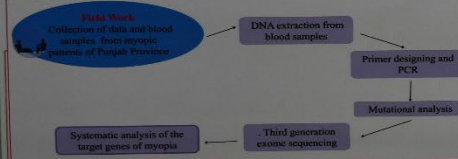
- Genetic factors
- Environmental factors
- Hereditary factors
- Development of retina
- Development of eye muscles

A BRIEF ACCOUNT OF RESULTS OF WORK DONE INTERNATIONALLY ON MYOPIA

Hereditability and familial aggregation evidences support the important role of genetic factors in causing the pathogenesis of myopia (Yap et al. 1993). The role of molecular genetics in myopia has been investigated mainly in population and family-based studies. GWASs, as one of the major forms, have been widely used to identify associations between the characteristics of myopia (i.e., refraction, axial length, or corneal curvature) and genetic variants across the whole genome. Whole exome sequencing and experimental myopia studies have been applied to reveal the molecular genetic basis of myopia (Li and Zhong, 2017). Overall, molecular genetic studies on myopia have identified numerous loci and genes, which are of great importance in implicating the mechanisms underlying myopia. Many genes found to be associated with human refractive error can be clustered into common biological networks. This group includes genes that encode matrix metalloproteinases (MMP1, MMP2, MMP3, MMP9), growth factors and growth factor receptors (HGF, TGFBI, TGFBI2, MET), collagens (COL1A1, COL2A1), and proteoglycans (LUM) (Andrew et al. 2008).

GANTT CHART (CHRONOLOGICAL CHART OF ACTIVITIES)					
Activities	1-6 months	6-12 months	12-18 months	18-24 months	
1. Collection of data and blood samples					
2. DNA extraction from blood samples					
3. Primer designing and PCR					
4. Mutational analysis					
5. Third generation exome sequencing					
6. Systematic analysis of the target genes of myopia					

METHODOLOGY



EXPECTED OUTCOMES

1. Better understanding of genetics of myopic individuals in Punjab province population.
2. Identification of common and even unique variants of genes involved in myopia in Punjab Province.

REFERENCES

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TRANSGENDER MARGINALIZATION IN THE PUNJAB, PAKISTAN

Student Name: Muhammad Nadir Shahzad
Supervisor Name: Dr. Mazhar Hussain Bhutta
DEPARTMENT OF SOCIOLOGY, PMAS AUR

1. INTRODUCTION

Transgender person is legally defined as whom not male or female, and combined characteristic of male and female (Transgender Persons Protection of Rights Act, 2017). More particularly, transgender people are one of the marginalized communities in South Asia, which do not have equal status in the society as normal male or female. A number of research studies are evident to the fact that transgender people are socially excluded, and even stigmatized and faced physical abuse, verbal violence and hence marginalized in terms of minimum access to basic human rights due to their gender ambivalence (Jaspal, 2012; Jami & Kamal 2013; Mai, 2018; Ozturk, 2011; Wijngraarden, et al., 2013).

1.1 Problem Statement

These people are isolated from society since childhood; they are denied from basic education, formal employment, health insurance and hence because of social marginalization, they drifted into deep ocean of innumerable ways of earning like sex work, beggary and dancing.

1.2 Objectives of the study

- To assess the marginalization of transgender community in terms of socio-cultural, religious, economic, political marginalization
- To develop a model for mainstreaming transgender community in the S.A. 1993.

1.3 Significance of the Study

Transgender people face discrimination and violence of various kinds across the country, and therefore, it's a marginalized community. The importance of this research is to raise the voice of the unheard community by assessing different aspects of marginalization (economic, social, cultural and political) of the transgender in Pakistan. Consequently, the findings of the research will be presented to all stakeholders working for mainstreaming of marginalized people across the country. The results are assumed to be valuable for policy decisions for uplifting the transgender population.



2. THEORETICAL FRAMEWORK

2.1 Social Exclusion Theory

By understanding social exclusion as being the result of societal aspects, attitudes, and perceptions which create an environment in which people are not fully able to participate in societal life, it becomes possible to see that not all excluded people are living in poverty vice versa. (Popay et al. 2008). It is therefore important to adopt a more inclusive scope and context of social exclusion, particularly when addressing social exclusion of transgender people in social, economic, cultural, political and religious participation in the society.



2.2 Operationalization of Marginalization

(Popay et al. 2008)

In this research marginalization is operationally defined by the researcher

- **"Social marginalization"** refers to lack of social cohesion such as family, neighborhoods, peers group, relatives, ethnicity, caste, race and community. Educational and health less opportunities are also included in this social marginality of the transgender.
- **"Economic marginalization"** cover constrains to employment opportunities, embarrassed access to commodities and livelihood opportunities such as income, housing land and working condition.
- **"Cultural marginalization"** of the transgender comprised on deviant behavior due to their gender non-conforming from certain features like community norms, values, folk ways and cultural practices in the society.
- **"Political marginalization"** refers to the lack of citizen rights, right to vote, access to freedom of speech, constitution legislation, access to law & security, and decision-making policies.
- **"Religious marginalization"** of transgender communities refers to the exclusion of religious practices such as Namaz-Janaza, Namaz-e-Jumma and religious practices in the society.

3. METHODOLOGY



4. WORKPLAN

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Proposal												
Initiation												
Pre-testing												
Identification												
Literature Review												
Conceptual and Theoretical Framework												
Data Collection												
Data Analysis												
Final writing												
Final Submission												

5. EXPECTED OUTCOME

- This study will highlight the discrimination against the transgender people on the ground of sexual orientation and gender identity.
- Application of research: propose a project for mainstreaming transgender community through vocational trainings and microfinance banking with the collaboration of Ministry of Human Rights, Govt. of Pakistan TEVETA, Govt. of Punjab and Wayang Organization Islamabad.
- This study is important for the transgender rights movement in Pakistan and secure to legal protection in the light empirical evidence.





CONTEXT AWARE RETRIEVAL TECHNIQUE FOR INTELLIGENT COURSEWARE IN HIGHER EDUCATION

Sidra Tahir (17-arid-1931) , Dr. Muhammad Azeem Abbas
University Institute of Information Technology

1. Introduction

Development of a new course is a difficult, time-consuming activity. Recent research encourages authors to reuse existing learning objects (LOs) instead of creating LOs [1]. When a course designer intends to design a specialized new course for higher level, he or she may not able to find relevant LO [2]. Existing LO retrieval techniques lack contextual indexing of LOs that hinders the classification of LOs with respect to different domains..

3. Methodology

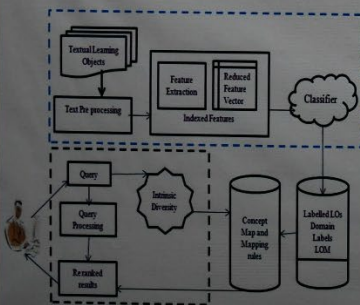


Fig 1. Research Methodology

2. Objectives

1. To model contextual indexing among LOs for a new course creation.
2. To propose a diversified searching technique for retrieval of LOs under modeled contextual indexing.
3. Validation and Evaluation of proposed approach in terms of its effectiveness and accuracy.

4. Experimental Design

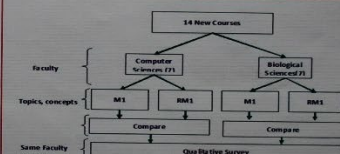


Fig 2. Subjective Evaluation

5. Results

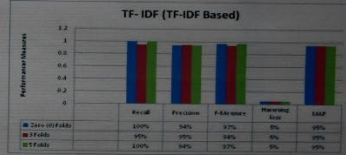


Fig 3. Objective Evaluation

6. Conclusion

Retrieval of intrinsically diverse learning objects for designing a new course by a course designer becomes easy, provides a more coherent effort, and reduces time and effort.

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Women Empowerment through Nudging In Dairy Value Chains

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Supervisor: Dr. Aneela Afzal

Department Of Sociology

INTRODUCTION

Lack of women empowerment in Pakistan is determined by social, geographical, ethnic, cultural and political hierarchies (Sustainable Development Policy Institute, 2008). Pakistan ranks low as compared to other nations in the measures of gender equality and women empowerment.

Nudging is a collection of behavior change tools planned to suggest, or hint, a choice that is diligently associated with human self-interest (Vigners, 2018).

Value chain refers to all the steps involved from primary production of milk, processing and till it reaches the final consumer. (Sanwar et al., 2002).

Dairy is one of the most important agricultural sectors in Pakistan with a huge potential for poverty alleviation, nutrition and creating employment especially for rural households and contributing to economic development. Women participation is in livestock management related activities is very high and they are spending about five to six hours daily to perform these activities along with their household chores. Small farms are not linked to the formal marketing networks and depend on middlemen to access the market, which helps to poor profitability and exploitation of small women farmers.

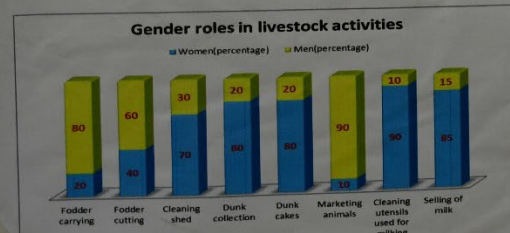
Objectives

- To assess women involvement in dairy value chains.
- To explore the socio-economic barriers affecting women empowerment in dairy value chains.
- To determine the gender roles in dairy value chains.
- To gauge the impact of nudging for development of dairy value chains.

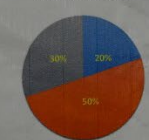
Methodology

- Multistage sampling technique was used to select the study area.
- A sample of four hundred respondents was selected from district Sargodha.
- Data was collected from both female farmers who were engaged in informal and formal value chains through purposive and simple random sampling technique.
- The data was collected through interview schedule.
- Different Nudge techniques was also used to increase profitability of the farmers

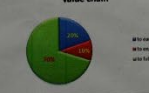
Results & Discussion



Time spent by women on livestock management activities

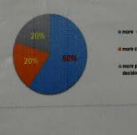


Purpose of Participation in dairy value chain



Source: Researcher with respondents during data collection

Perceived Level of empowerment



Discussion

Dairy management activities are an essential segment of operating and maintaining dairy farming. The participation rates of women in all types of management activities were found to be highest except fodder carrying, marketing and vaccination. Small-scale dairy farming created opportunities for women to earn money and also helped to bear the educational expenses of their children. The women thought if they started a small dairy farm within houses, near their houses, they could earn money and assist the family. Farming helped them improve their socio-economic conditions and achieve sustainable development. According to Bhatti et al. (2016), livestock are considered a key means by which rural people can improve their family income.

Conclusion

- ✓ This study have a substantial importance for those who are directly or indirectly associated with the research of women empowerment in dairy value chain
- ✓ This research will also help the dairy farmers especially women to access the market and information, to adopt dairy production technologies and enhance their bargaining power.
- ✓ This study will be helpful for policy makers in making policies to empower women in dairy value chain and other related issues.

Community Engagement

Integration of our community in the contemporary value chains is the solution to many economic problems and some social problems for instance plaguing the gender gap.

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Arid Agriculture

Pir Mehr Ali Shah

Measuring the Impact of Asymmetric Information on the Financing and Investment Decisions of Agriculture Allied & other Non-Financial Firms

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University Institute of Management Sciences

INTRODUCTION

Asymmetric information plays a key role in financing and investment decisions in the corporate world. Literature states that an increase in asymmetric information leads to higher debt to equity ratio, over and under-investment

Base Line Theories

➤ Pecking Order Theory

➤ Signaling Theory

Research Objectives

- To construct the index of asymmetric information
- To find out the impact of asymmetric information along with firm-specific factors on the financing and investing decisions
- To measure the feedback effect of target leverage on the level of asymmetric information

Research Gap

- There is no information disclosure index in Pakistan.
- There is no study which shows the impact of Asymmetric Information on Financing and investing decisions of Agriculture Allied and Other Non Financial firms.

Significance

- Development of asymmetric information index in Pakistan
- This study is beneficial for the firm's manager, fund providers, investors and policymakers

METHODOLOGY

Total Sample Firms	280 (Which includes 155 Agriculture Allied and 125 Other Non-Financial firms listed at PSX)
Time Horizon	2000-2018
Data Source	Data Stream and Worldscope
Index Measures	TV, PIM, S, VCV, ACC, ABE
PCA Equation	$AI_{it} = W_1PV_{it} + W_2PIM_{it} + W_3S_{it} + W_4VCV_{it} + W_5ACC_{it} + W_6ABE_{it}$
Variables	Leverage, Investment, Size, Growth, Profitability, Tobin's Q, M2B, Cash flows, Tangibility, Dividend Payout, Age
Impact of Asymmetric Information on Financing Decision	$Lev_{it} = \alpha_1 + \beta_1 AI_{it-1} + \beta_2 Gr_{it-1} + \beta_3 Pro_{it-1} + \beta_4 Tob_{it-1} + \beta_5 M2B_{it-1} + \beta_6 Cash_{it-1} + \beta_7 Tang_{it-1} + \beta_8 Size_{it-1} + \beta_9 Age_{it-1} + \epsilon_{it}$
Impact of Asymmetric Information on the Investment Decision	$Inv_{it} = \gamma_1 + \gamma_2 AI_{it-1} + \gamma_3 Gr_{it-1} + \gamma_4 Pro_{it-1} + \gamma_5 Tob_{it-1} + \gamma_6 M2B_{it-1} + \gamma_7 Cash_{it-1} + \gamma_8 Tang_{it-1} + \gamma_9 Size_{it-1} + \gamma_{10} Age_{it-1} + \epsilon_{it}$
Impact of Asymmetric Information on Financing Decisions Interacted with size, age and financial crises	$Lev_{it} = \alpha_1 + \beta_1 AI_{it-1} + \beta_2 Gr_{it-1} + \beta_3 Pro_{it-1} + \beta_4 Tob_{it-1} + \beta_5 M2B_{it-1} + \beta_6 Cash_{it-1} + \beta_7 Tang_{it-1} + \beta_8 Size_{it-1} + \beta_9 Age_{it-1} + \beta_{10} AI_{it-1} * Size_{it-1} + \beta_{11} AI_{it-1} * Age_{it-1} + \beta_{12} AI_{it-1} * Crises_{it-1} + \beta_{13} AI_{it-1} * Size_{it-1} * Age_{it-1} + \beta_{14} AI_{it-1} * Size_{it-1} * Crises_{it-1} + \beta_{15} AI_{it-1} * Age_{it-1} * Crises_{it-1} + \beta_{16} AI_{it-1} * Size_{it-1} * Age_{it-1} * Crises_{it-1} + \epsilon_{it}$
Feedback Effect of Financing Decisions on Asymmetric Information	$AI_{it} = \rho_0 + \rho_1 Lev_{it-1} + \rho_2 Inv_{it-1} + \rho_3 Gr_{it-1} + \rho_4 Pro_{it-1} + \rho_5 Tob_{it-1} + \rho_6 M2B_{it-1} + \rho_7 Cash_{it-1} + \rho_8 Tang_{it-1} + \rho_9 Size_{it-1} + \rho_{10} Age_{it-1} + \epsilon_{it}$
Data Analysis Techniques	Descriptive Statistics, Correlation Analysis, POLS, FEM

RESULTS

- We find a significant impact of asymmetric information on firms' financing and investment decisions and our results are aligned with Andres et al. (2014), Gao and Zhu (2015) & Morellec and Schurhoff (2011).
- Asymmetric Information index value shows an increase during the financial crises 2007-2008 (In line with Fosu et al., 2010)
- Small size firms show a higher impact of asymmetric information on the leverage as compared to the large size firms, whereas old firms have more impact of asymmetric information on leverage than young firms.
- Asymmetric Information is leading more towards underinvestment as compared to over investment in Pakistani perspectives.
- The negative impact of changes (observed and target) in leverage on asymmetric information confirms the claim of Ross's (1977) that the change in capital structure is a signal of future profitability. Therefore, it leads to decrease in the level of asymmetric information.

CONCLUSION

- The study confirms the pecking order & signaling theory of finance.
- Asymmetric information prevails around the firms. Level of asymmetric information is found high in Agriculture Allied firms as compared to other non-financial firms
- Asymmetry information leads to higher debt to equity ratio.
- Asymmetry information leads to over and under investment.

Recommendations

- SECP should improve the Financial disclosure policies which mitigate the level of asymmetric information and increase the investor's confidence.
- It is a more desirable policy for a firm to use debt financing instead of issuing new share
- The investors may consider the asymmetric information index at the time of investment

Future Direction

- Future research may be conducted to make a comparative analysis between developing and developed countries
- Financial sectors may be studied using the same methodology
- Further research may be conducted to investigate the impact of equity issuance on the level of asymmetric information

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