

SUSTAINABILITY REPORT (2020)



LAHORE GARRISON
UNIVERSITY

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Sustainability Report 2020

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ABOUT THIS REPORT

Welcome to the Lahore Garrison University Sustainability Report

The report is aimed at institutional approach to sustainability for UI GreenMetric World University Ranking reflects our University Approach towards Sustainability.

INTRODUCTION

Statement from Vice Chancellor



I am pleased to introduce the University's *Sustainability Report*, which provides a broad review of our work since 2010 and adopts the Global Reporting Initiative (GRI) Framework to provide a robust method of measuring performance across environmental, social and economic sustainability. Sustainability is at the heart of the University's refreshed strategy and we continue to be recognized as leaders and innovators in higher education for our approach to this, across teaching and learning, research, and our University operations. The Lahore Garrison University (LGU) motto is Nurturing the Future of Pakistan in an Excellent Environment. LGU is a private university located in Lahore, Punjab, Pakistan. The university was established by the Pakistan army in 2010. Set in greenery, with various smart building facilities, LGU is the focus of life for students, staff and visitors. In research, the LGU has continued to provide opportunities for academics to engage with businesses, community groups and individuals on projects that speak to the global challenges of our day.

In addition to the wealth of new knowledge created and disseminated by our scholars, we've made progress in many areas, from how we manage our waste to the number of sustainability related courses taught at LGU to how we empower students and employees to be involved. This journey is a long one filled with successes and lessons to be learned, and we will continue to do this together.

Our sustainability approach

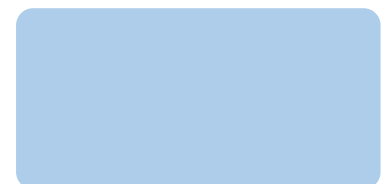
Our mission: advancing knowledge, transforming lives

Sustainability is embedded within our refreshed Strategy 2016–2020, and at an operational level the University adopts a cross-institutional approach to support the management and delivery of financial, social and environmental sustainability activity across our operations, research, and teaching and learning activities. This is where we can have the greatest impacts: delivering world-leading research supporting solutions for global problems; innovative teaching and learning equipping graduates with the attributes and competencies necessary for applying sustainability principles in their civic and professional lives, and ensuring that we operate a sustainable estate.

The University is leading in sustainability research such as published 105 Research Papers on sustainability (Annexure-A) and 51 Research Projects related to sustainability are submitted to different funding agencies (Annexure-B). Some other Key points related to sustainability are as under;

80% of the university staff and students uses university shuttle service to the university.

54% of the university constitutes female and 46% males.



6. Sustainable Development Goals

In 2018 we committed to a new global initiative, the SDG Accord, which is the higher education sector's collective response to the United Nation's Sustainable Development Goals (SDGs). The aim of the initiative is to embed the goals across post-16 education, recognizing and advancing the critical role that education has in delivering the goals and the value this brings to governments, business and wider society. The SDGs aim to achieve a better and more sustainable future for all, addressing the global challenges that face societies, including poverty, inequality, climate change, environmental degradation, prosperity, peace and justice. There are 17 goals and the UN aims to achieve all by 2030. For the University in the coming year, we aim to map our activities to the goals to identify which we are supporting through our activities and implement a delivery programme.



8. OPERATIONS

[2] Energy and Climate Change (EC)

[2.1] Energy Efficient Appliances Usage

Lahore Garrison University intends to realize further energy savings by paying close attention to energy management. All parts of the organization can assess their own energy consumption and realize their own energy-saving potential by means of, for example, Energy efficient LED lighting, Invertor AC and the deployment of sustainable technology.

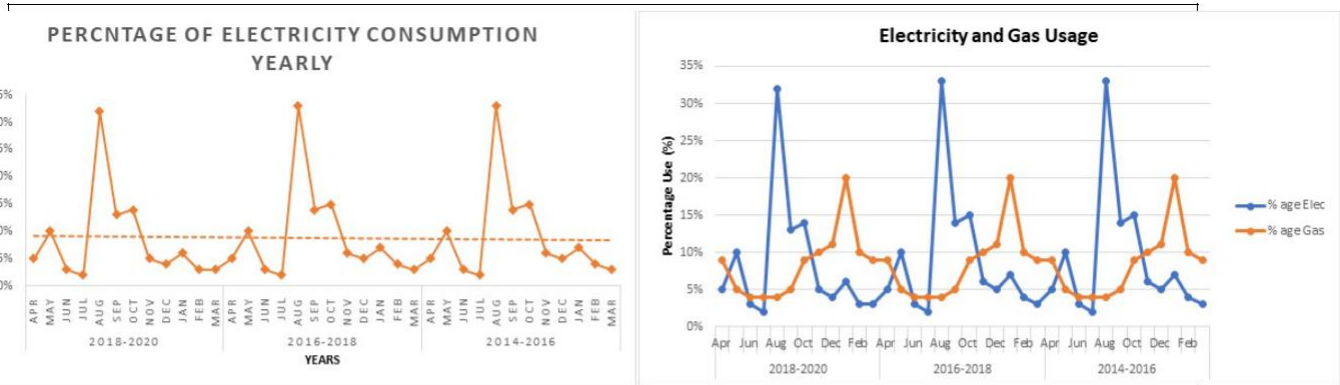


Energy Efficient Appliances Usage: Use of LED lighting and lamps with light detection (Lahore Garrison University, Pakistan)

Appliance	Total Number	Total number energy Efficient appliances	Percentage
Energy efficient LED lights	200	200	66.67 %
Fan	70	70	23.33 %
Invertor AC	23	23	7.67 %
Large Water Dispensers	3	3	1 %
Total	300	Total Percentage	98.67 %

Electricity Usage per Year (in Kilowatt hour)

The electricity usage per year of Lahore Garrison University is 1633286 kWh. Electricity is used for lighting, cooling, heating and laboratory appliances and for various printing purposes etc.



Total Electricity and Gas Usage (All Locations) in 2016-2020 (Lahore Garrison University, Pakistan)



Electricity Usage (kWh) on Main Campus (Lahore Garrison University, Pakistan)

The Total Carbon Footprint (CO₂ emission in the last 12 months, in metric tons)

Option 2: Recommended by UI GreenMetric

CO₂ (electricity)

$$= \frac{\text{electricity usage per year (kWh)}}{1000} \times 0,84$$

$$= \frac{600000 \text{ kWh}}{1000} \times 0,84$$

$$= 504 \text{ metric tons}$$

CO₂ (bus)

$$= \frac{\text{number of bus} \times \text{hh} \times \text{hh} \times 240}{100} \times 0,01$$

$$= \frac{12 \times 2 \times 2 \times 240}{100} \times 0,01$$

$$= 1.512 \text{ metric tons}$$

CO₂ (cars)

$$= \frac{\text{number of cars entering your university} \times 2 \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0,02$$

$$= \frac{130 \times 2 \times 2 \times 240}{100} \times 0,02$$

$$= 246 \text{ metric tons}$$

CO₂ (motorcycle)

$$= \frac{\text{number of motorcycle entering your university} \times 2 \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0,01$$

$$= \frac{1500 \times 2 \times 2 \times 240}{100} \times 0,01$$

$$= 14 \text{ metric tons}$$

CO₂ (total)

$$= 504 + (1.512 + 246 + 14)$$

$$= 674 \text{ metric tons}$$

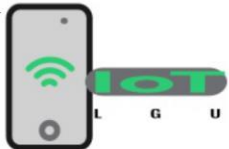

Carbon footprint in 2019-2020 = 674 metric tons

Program to Reduce the Use of Paper and Plastic on Campus

More than three programs are used. LGU IT, ERP department supports paperless system to reduce paper in daily workplace. It can reduce a lot of paper use that mean Lahore Garrison University can reduce CO2 emissions and save the world. Solutions of reusable paper in back office, e.g. using 2-side of paper, always recheck your data before print, use of online system instead of hard copy. LGU has a policy of "Reduce Reuse plastic bag in the last 2 years.

The use of paper is also reduced from last four years as seen in the following evidence as working on e-program.



S/No.	Years	Purchased (in Reams)	Remarks
1	2015	1173	Issued to all departments/offices
2	2016	403	
3	2017	856	
4	2018	1169	
5	2019	1352	
Total		4953	

																									
1	2																								
	<table border="1"> <caption>Year-wise Details of Papers Purchased</caption> <thead> <tr> <th>S/No.</th> <th>Years</th> <th>Purchased (in Reams)</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2015</td> <td>1173</td> <td rowspan="5">Issued to all departments/offices</td> </tr> <tr> <td>2</td> <td>2016</td> <td>403</td> </tr> <tr> <td>3</td> <td>2017</td> <td>856</td> </tr> <tr> <td>4</td> <td>2018</td> <td>1169</td> </tr> <tr> <td>5</td> <td>2019</td> <td>1352</td> </tr> <tr> <td colspan="2">Total</td> <td>4953</td> <td></td> </tr> </tbody> </table>	S/No.	Years	Purchased (in Reams)	Remarks	1	2015	1173	Issued to all departments/offices	2	2016	403	3	2017	856	4	2018	1169	5	2019	1352	Total		4953	
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3	4																								

Water (WR)

Water Efficient Appliances Usage (e.g. hand washing taps, toilet flush, etc.)

Blockwise Detail of Sanitary Items - Installed in LGU Buildings											
Sr. No.	Item	Block-A	Block-B	Block-C	Block-C-2	Block-D	New Building	Sports Complex	Mosque	Café	Total
1	Wash Basin with Tape	18	15	9	9	9	20	10		8	65
2	Comode with Tape	12	12	9	9	9	15	5		4	51
3	Flush Tank with Tape	14	12	9	9	9	20	6		8	61
4	Flush Seat with Tape	2					5	1		4	10
5	Urinal with Tape	7	10	9	9		12				30
6	Geyser	2							1		1
7	Chiller		1	1	1						2
8	Water Cooler		2	1	2						3
9	Tape								15	2	17
10	Shower							6			6
11	Overhead Water Tank			1		1	5	2	1	2	12

Water Efficient Appliances Usage (Lahore Garrison University, Pakistan)

Appliance	Total Number	Total number energy Efficient appliances	Percentage
Toilet	51	51	19%
Wastafel	65	61	23%
Etc.	142	100	38%
		Total Percentage	80%

Waste (WS)

Inorganic Waste Treatment

Inorganic Waste treatment in Lahore Garrison University is not well developed so such material is treated partially.



Inorganic Waste Treatment (Lahore Garrison University, Pakistan)

Transportation (TR)

Lahore Garrison University is running 12 shuttle service to Decrease Private Vehicles on Campus having two trips per day and is not free for students as well as faculty and non-teaching staff. But the bus charges are very reasonable than other transport services. It has the capacity of 30 passengers.

Shuttle Services



Shuttle Services (Lahore Garrison University, Pakistan)

(Revised)
Transport Service Charges Schedule of Faculty
01-Aug-2017

Sl. No.	Faculty	Sl. No.	Faculty
1	Dr. Aftab Ahmad	11	Dr. Aftab Ahmad
2	Dr. Aftab Ahmad	12	Dr. Aftab Ahmad
3	Dr. Aftab Ahmad	13	Dr. Aftab Ahmad
4	Dr. Aftab Ahmad	14	Dr. Aftab Ahmad
5	Dr. Aftab Ahmad	15	Dr. Aftab Ahmad
6	Dr. Aftab Ahmad	16	Dr. Aftab Ahmad
7	Dr. Aftab Ahmad	17	Dr. Aftab Ahmad
8	Dr. Aftab Ahmad	18	Dr. Aftab Ahmad
9	Dr. Aftab Ahmad	19	Dr. Aftab Ahmad
10	Dr. Aftab Ahmad	20	Dr. Aftab Ahmad
21	Dr. Aftab Ahmad	31	Dr. Aftab Ahmad
22	Dr. Aftab Ahmad	32	Dr. Aftab Ahmad
23	Dr. Aftab Ahmad	33	Dr. Aftab Ahmad
24	Dr. Aftab Ahmad	34	Dr. Aftab Ahmad
25	Dr. Aftab Ahmad	35	Dr. Aftab Ahmad
26	Dr. Aftab Ahmad	36	Dr. Aftab Ahmad
27	Dr. Aftab Ahmad	37	Dr. Aftab Ahmad
28	Dr. Aftab Ahmad	38	Dr. Aftab Ahmad
29	Dr. Aftab Ahmad	39	Dr. Aftab Ahmad
30	Dr. Aftab Ahmad	40	Dr. Aftab Ahmad

Shuttle Services – Bus Fare (Lahore Garrison University, Pakistan)

10. Research and Education

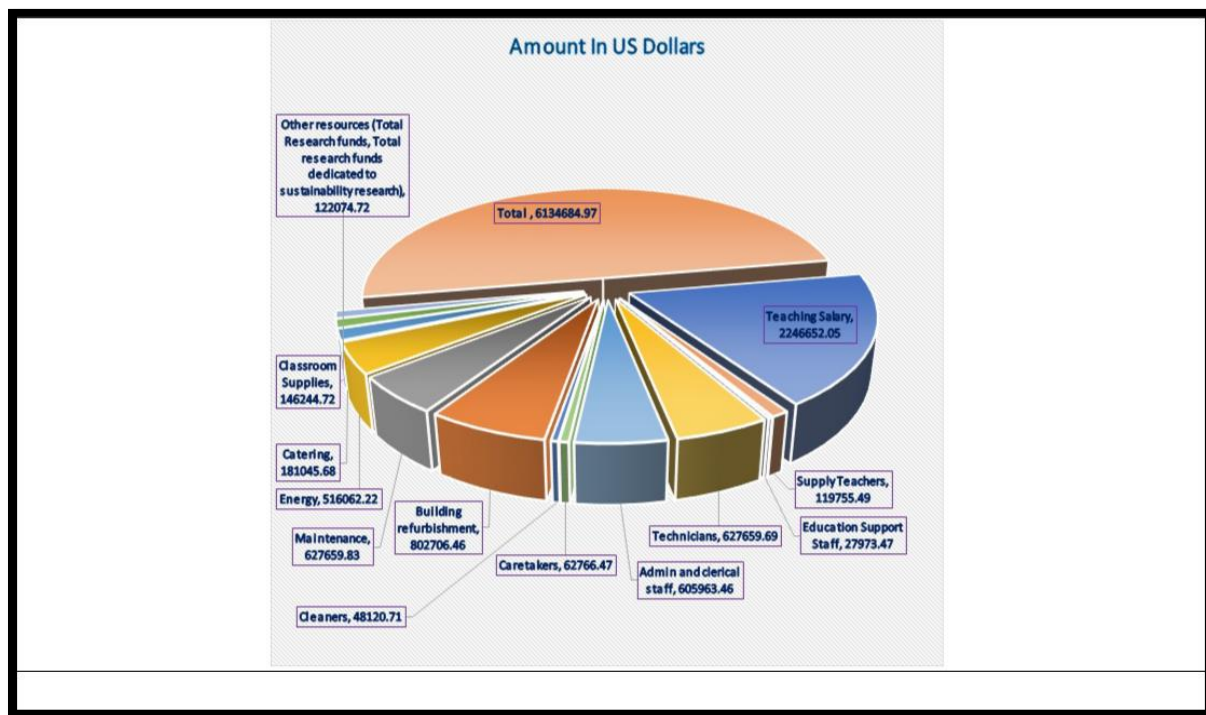
Total Research Funds Dedicated to Sustainability Research (in US Dollars).

Total research fund dedicated to sustainability research in 2017 = 122,074.72 USD

Total research fund dedicated to sustainability research in 2018 = 122,074.72 USD

Total research fund dedicated to sustainability research in 2019 = 122,074.72 USD

The averaged annum last 3 years of research fund dedicated to sustainability research = 122,074.72 US Dollars



1. RESEARCH PAPERS PUBLISHED ON SUSTAINABILITY

The University is leading in sustainability research such as published 105 Research Papers on sustainability (Annexure-A)

2. RESEARCH PROJECTS ON SUSTAINABILITY SUBMITTED IN DIFFERENT FUNDING AGENCIES

51 Research Projects related to sustainability are submitted to different funding agencies (Annexure-B).

11. TEACHING AND LEARNING

107 Courses are offered related to sustainability. Excel sheet link includes details of courses on sustainability;



Greenmetric UI
ranking data.xlsx



Total number of courses offered in 2018/19 = 107 courses on sustainability

Events on sustainability at LGU

LGU has conducted ten events related to sustainable development

Sr. #	Date	Event Name	Organizing Departments
1.	April, 2018	Robotic Competition-2018	Department of Computer Science
2.	28-29 th March, 2018	2 nd National Conference on Computer Science & Information Technology	Department of Computer Science
3.	18-20 December, 2017	1 st National Conference on Peace and Harmony	Department of Islamic Studies
4.	11-12 October, 2017	1 st National Conference on Biotechnology	Faculty of Basic Sciences and ORIC
5.	May, 2017	Seminar on “Human Rights and Equal Citizenship: The Role of Young People”	Faculty of Social Sciences
6.	3-4 May, 2017	1 st National Conference on Computer Science and Information Technology	Department of Computer Science
7.	2017	Seminar on Importance of Digital Forensics in Solving Crimes	Department of Computer Science
8.	23- 24 Oct, 2018	2 Days symposium socio- Economic Aspect of CPEC	Economics
9.	14- 15 Dec, 2018	International Physics Conference on Innovations in Material Sciences	Physics

PICTORAL EVIDENCES OF EVENTS ON SUSTAINABILITY



Seminar on “Human Rights and Equal Citizenship: The Role of Young People”

(May, 2017)



Seminar on Importance of Digital Forensics in Solving Crimes

2017



**2nd National Conference on Computer Science & Information Technology
(28-29 March 2018)**



**Robotic Competition-2018
(April 2018)**

Annexure-A

1. RESEARCH PAPERS PUBLISHED ON SUSTAINABILITY

Sr. No.	BIOLOGY					
1.	Author Name	Title of Paper	Journal of Paper	Quarter	Year	Research Paper Status
2.	Roheela yasmeen	Assessment of respiratory problems in workers associated with intensive poultry facilities in Pakistan	Safety and health at work	1 st	2020	Published
3.	Dr naureen naeem	Review article on phyto remediation and other remediation technologies of soil contaminated with heavy metals	Acta scientific agriculture	1 st	2020	Published
4.	Roheela yasmeen	Assessment of heavy metals in different organs of cattle egrets from a rural and urban environment in Pakistan	Environmental science and population	1 st	2019	Published
5.	Rasheda jabeen Beenish	Review: mosquito control methods and their limitations	-----	1 st	2019	Published

	sarfaraz					
6.	Fauzia qamar	A perspective review on methodologies for treating sugar industry effluents	Environmental science and natural resources	2 nd	2019	Published
7.	Dr Naureen naeem	Association of ace with human performance	Acta scientific biotechnology	3rd	2019	Published
8.	Dr Imran afzal	Combined effect of antibiotics and heavy metals on ecoli isolated from clinical swewage and poultry source	Gomal university journal	3rd	2019	Published
9.	Dr Aqeela ashraf	Causes types etiological agents prevalance diagnosis treatment prevention and affects on human health and future aspects of bovine mastitis	Animal health research	3rd	2019	Published
10.	Roheela yasmeen	Estimation of particulate matter and gaseous concentrations using low cost sensors from broiler houses	Environmental monitoring and assessment	3rd	2019	Published
11.	Qamar abbas	The rep proteins encoded by alphasatellites restore	Virus disese	3rd	2019	Published

		expressions of a transcriptionally silenced green fluorescent protein transgene in nicotiana glauca				
12.	Dr aqeela ashraf	Causes types etiological agents prevalence diagnosis treatment prevention and affects on human health and future aspects of bovine mastitis	Animal health research	3rd	2019	Published
13.	Roheela yasmeen	Estimation of particulate matter and gaseous concentrations using low cost sensors from broiler houses	Environmental monitoring and assessment	3rd	2019	Published
14.	Qamar abbas	The rep proteins encoded by alphasatellites restore expressions of a transcriptionally silenced green fluorescent protein transgene in nicotiana glauca	Virus diseases	3rd	2019	Published
15.	Dr shumaila	Plant beneficial endophytic bacteria	Microbiological research	1 st	2018	Published

		mechanisms diversity host range and genetic determinants				
16.	Aisha w qureshi	Analysis of exopolysaccharide of IG-I (Citrobacter Freundii) isolated from earth worm under different physiological conditions	-----	3 rd	2018	Published
17.	Abdul majeed	Assessment of growth yield and nutritional values of pea by foliage applications of IAA	PJB	1 st	2017	Published
18.	Roheela yasmeeen	Study of vertebrate diversity at lal suharra national park Pakistan	The journal of animal and plant sciences	1 st	2017	Published
19.	A.w.Qurerashi	Biofilm formation and calcium precipitation in bacillus lichen iformis and alcaligenes faecalis for soil improvement	Pakistan journal of science	1 st	2017	Published
20.	Uzma rafi	Bio film formation and bacterial aggregation response of planomicrobium	Pakistan journal of zoology	1 st	2017	Published

		chinese and alkaligenes faecalis associated with periplaneta Americana found in house hold sewerage				
21.	Shomaila sikander	Thermomyces lanuginosus STm a source of thermostable hydrolytic enzymes for quality natural rubber from taraxacum kok saghyz industrial crops and products	Industrial crops and products	1 st	2017	Published
22.	Aisha waheed querashi	Pseudomonas otitidis and bacillus subtilis from saline soil of Pakistan showed a potential of calcium precipitation	International journal of economics	2 nd	2017	Published
23.	Mazher sumaira	Novel approach for the determination of nitrogen fixation in cyano bacteria	Psychological research	2 nd	2017	Published
24.	Abdul majeed	Bio energy challenges and opportunities in Pakistan	Medical research	3 rd	2017	Published

Sr. No.	ENGLISH					
25.	Author Name	Paper Title	Journal name	Year	Quarter	Research Paper Status
26.	Arif jawaid	The status of patients satisfaction with outpatient hospital pharmacy	Gomal university	2019	1 st	Published
27.	Arif jawaid	Connotations of psychological and physiological health in the physiological work environment an industrial context	JPAR	2019	1 st	Published
28.	Arif jawaid	The effect of physical exercises on illness behavior acse of psychiatric patients of services hospital of Lahore	Gomal university journal	2019	1 st	Published
29.	Sumbal sarfraz	prononunciation challangs faced by undergraduate students of middle east	Language in india	2019	1 st	Published
30.	Syeda marium naqvi Arif javaid Sumbal sarfaraz Naseer ahmad Hina javaid	Pronunciation challenges faced by undergraduate students of middle east	Language in india	2019	1 st	Published

31.	Mohsin raza	The effect of interventions on quality adjusted life years (QALY) of dialysis patients	Gomel university journal of research	2019	1 st	Published
32.	Farhana yasmin	Change in examination system and language of instruction influencing academic achievement of university students	International journal of applied linguistics and English literature	2019	2 nd	Submitted
33.	Kalsoon jahan	Lexical analysis of intermediate English course books a corpus based study	International journal of educational sciences	2019	2 nd	Published
34.	Kalsoon jahan	Material evaluation in English language classrooms at secondary level	Dilemas contemporaneous education politica y valores	2019	2 nd	Published
35.	Sumera shan ahmad	Current critical thinking practices in English as second language classrooms	Dilemas contemporaneous education politica y valores	2019	2 nd	Published
36.	Naseer ahmad	Dictionary using habits of electrical engineering students in Lahore Pakistan	Language in india	2019	3 rd	Published
37.	Kalsoon jahan	Participle English phrasal verbs the case of up . a corpus based study on the use of	International journal of educational sciences	2019	3 rd	Published

		phrasal verbs by Pakistani learners of English				
38.	Tehseen Muhammad	Translingual repertoires of multilinguals in academic writing practice	European online journal of natural and social sciences	2019	3 rd	Published
39.	Kiran Khalid	Exploring gender ideology in fairy tales a critical discourse analysis	European journal of research in social sciences	2019	3 rd	Published
40.	Naseer ahmad	Socio cultural implications of language . an investigation of the hindrances caused by socio cultural factors of expressive discourse	IJSER	2019	3 rd	Published
41.	Manzhar iqbal ranjha	Association VS disassociation . an analysis of inclusive and exclusive plural personal pronouns in the pakistani parliamentary speeches	Bulletin of education and research	2018	2 nd	Published
42.	Sumbal sarfaraz Maryam Naqvi Naseer Ahmad Farhana yasmin Naseer ahmad Sumaira mukhtar	Role of othelo jealousy in tragedy by WS	IJSER	2018	2 nd	Published

43.	Dr arif jawaid Farhana yasmin Hina jawaid Javeria tariq Naseer ahmad	Challenges to computer assisted language	Journal of language and literature	2018	3 rd	Published
44.	Farhana yasmeen	From theory to practice need of language labs in Pakistan	Pakistan journal of educational research and evaluation	2018	3 rd	Published
45.	Dr arif jawaid	Recycling practices and perceptions among rural primary school children in SJK chung hua asajaya samarahan Sarawak	Journal of bronco Kalimantan	2017	3 rd	Published
46.	Manzar iqbal ranjha	Urdu syllable. Templates and constraints	Proceeding to CLT12	2017	3 rd	Published
47.	Mazhar iqbal ranjha	Stability of consonant clusters in urdu	ELF annual research journal 16	2017	3 rd	Published
48.	Mazhar iqbal ranjha	Resyllabification of English words by urdu LI speakers	Language in india	2017	3 rd	Published
49.	Manzar iqbal ranjha	Failure of Pakistani students in English in examination	Journal of research in social sciences	2017	3 rd	Published
50.	Dr arif jawaid Naseer ahmad	Dictionary using habits of electrical engineering	Languages in india	2017	3 rd	Published

Sr. No.	CHEMISTRY					
	Author Name	Title of Paper	Journal of Paper	Year	Quarter	Research Paper Status
51.	Dr. Sadaf sarfraz	Phase diagram and surface adsorption behavior of benzyl dimethyl hexadecyl ammonium bromide in a binary surfactant water system	Journal of molecular liquids	2019	1 st	published
52.	Dr. manzar Zahra	Polypyrrole decorated mechanically robust conductive nanocomposites via solution blending and insitu polymerization techniques	Industrial and engineering chemistry research	2019	1 st	published
53.	Dr. Shabir hussain Dr Hajra rehman	Using combined uv and h ₂ o ₂ treatments to reduce tannery wastewater pollution load	Polish journal of environmental studies	2019	1 st	published
54.	Shabbir Hussain	Extraction of brown dye from eucalyptus bark and its applications in food storage	Quality assurance and safety of crops and foods	2019	3 rd	Published

55.	Shabbir Hussain	Synthesis and characterization of zno nanoparticles and their use as an adsorbent for the arsenic removal from drinking water	Digest journal of nano materials and bio structures	2019	3 rd	Published
56.	Shabbir Hussain	Mass spectroscopic and biological activity investigations of bis (triorganotin) (iv) carboxylates with acetylene dicarboxylic acid	Bulgarian chemical communications	2019	3 rd	Published
57.	Shabbir Hussain	Study on arsenic poisoning by worldwide drinking water its effect and prevention	International journal of economic and environment geology	2019	3 rd	Published
58.	Shabbir Hussain	A perspective study on lead poisoning exposure effects and treatment	International journal of economic and environment geology	2019	3 rd	Published
59.	Shabbir Hussain	Sepsis causes symptoms diagnosis treatment and prevention procedures	Pakistan journal of science	2019	3 rd	Published

60.	Shabbir Hussain	Review nature and therapeutic potential of silica based mesoporous bioactive glass	Scientific inquiry and review	2019	3 rd	Published
61.	Sayedana mona Hassan	vitality and implication of natural products from viburnum grandiflorum an eco friendly approach	Polish journal of environmental sciences	2018	1 st	published
62.	Syeda shaista gillani	A rapid and efficient protocol for the synthesis of cinnamyls	Letters in organic chemistry	2018	1 st	Published
63.	Tanzeela gulab shehzady Shabbir hussain	Nature of aflatoxins their extraction analysis and control	2018	Journal of food safety	3 rd	Published
64.	Shabbir Hussain Sadafa sarfaraz Hajra rehman	Review : Nature of leather effluents and their effective treatment	2018	OJS	3 rd	Published
65.	Hajra rehman	Nature of aflatoxins their extraction analysis and control	2018	Journal of food safety	3 rd	Published
66.	Shabbir Hussain	Nature of aflatoxins their extraction	2018	Journal of food safety	3 rd	Published

		analysis and control				
67.	Shabbir Hussain	Synthesis spectroscopy and biological studies of chalcone derived pyrimidines	2018	Der pharm a chemical	3 rd	Published
68.	Dr zulfiqar ali	An efficient synthesis structural characterization and hydrolytic degradation studies of poly bis 3 phenyl - 1 propoxide amino benzoic acid diethylamino phosphazane as potential material for biomedical applications	Journal of inorganic and organometallic polymers and materials	2017	1st	Published

Sr. No.	ECONOMICS					
69.	Author Name	Paper Title	Journal Name	Year	Quarter	Research Paper Status
70.	M. Tahir	A study of graduate students satisfaction through service quality	Sci. Int	2018	1 st	Published

71.	Humera sherazi	Impact of monetary aggregate targeting to control inflation in Pakistan	Sci. Int	2018	1 st	Published
72.	Humera sherazi, Tahir Mahmood	Impact of exchange rate targetings to handle inflation in Pakistan	Sci. Intl	2018	2 nd	Published
73.	Shafqat mehmoood khan	Impact of trade openness on economic wellbeing in Pakistan	-----	2018	3 rd	Published
74.	Shafqat Mehmood	Work experience and entrepreneurship: evidence from Pakistan	Sci. Int	2017	3 rd	Published
75.	M Tahir	The impact of public investment on Economic growth	Sci. Int	2017	3 rd	Published

INTERNATIONAL RELATIONS

	Author Name	Paper Title	Journal Name	Year	Quarter	Research Paper Status
76.	Syed waqas haider	Energy dynamics of china pakistan economics corridor (CPEC)	regional studies	2020	1 st	Published

ISLAMIC STUDIES						
	Author Name	Paper Title	Journal Name	Year	Quarter	Research Paper Status
77.	Hafiz Irfan ullah	Economic activities of women and contemptry society	Rahate qaloob	2019	1 st	published

MANAGEMENT SCIENCES						
	Author Name	Paper Title	Journal Name	Year	Quarter	Research paper Status
78.	Dr Saif ur Rehman	Relation of environment sustainability to CSR and green innovation . a case of Pakistani manufacturing industry	Journal of cleaner production	2020	1 st	published
79.	Abdul khaliq alvi Raza hussain lashari	The influence of organizational climate and organizational socialization on knowledge management an empirial study in banking sector of Pakistan	Internatio nal journal of manageme nt excellence	2019	1 st	Published

80.	Umair Javaid	Exploring the affect of terrorism on education sector. A case study of Khyber pakhtunkhwa Pakistan	City university research journal	2019	2 nd	published
81.	Ayesha alam	Factors influencing purchase intention of online group buying in pakistan	SCI.INTL	2019	2 nd	Published
82.	Aiza hussain Raza hussain	Prominent transformational leadership dimensions that impact employee engagement within banking ector of Pakistan	Academic journal of social sciences	2018	1 st	Published
83.	Umer javaid	Does psychosocial work environment factors predict stress and mean arteriall pressure in the Malaysian industry workers	Biomed research international	2018	1 st	Published
84.	Umer javaid	An integrative approach to study drivers perceived stress on aberrant driving behavior the nediation role of driver fatigue	SHS web of conferenc e	2018	1 st	published

85.	Abdul khaliq alvi	Impact of procedural justice and distributive justice on organizational commitment in banking sector of Lahore Pakistan	SCI.INTL	2018	2 nd	Published
86.	Raza Hussain Lashari	Prominent transformational dimensions that impact employee engagement within banking sector of pakistan	Academic journal of social sciences	2018	2 nd	Published
87.	Madeeha afzal	The recobnstruction of corporate structure a holistic view of agency prob	SCI.INTL	2018	2 nd	Published
88.	Aiza hussain Raza hussain	Explore the relationship between transformational leadership social interaction and knowledge management among banking sector of Pakistan	Internatio nal journal of mangment excellence	2018	3 rd	Published
89.	Mazher fareed chishti Ambreen afzal	Testing the efficiency of Pakistani stock market (PSX) a case of KSE -100 index	Gomel university journal of research	2017	1 st	Published

90.	Abdul khaliq alvi	The impact of employee training on commitment and OCB evidence from FMCGs in lahore Pakistan	Gomal university journal of research	2017	1 st	Submitted
91.	Mazher fareed chishti Madeeha afzal Ambreen afzal	The reconstruction of corporate structure .A holistic view of agency problem	SCI.INTL	2017	2 nd	Published
92.	Abdul khaliq alvi	Impact of organizational culture and employees satisfaction on organizational performance in banking sector of Lahore	SCI.INTL	2017	2 nd	Published

MASS COMMUNICATION						
Sr. No.	Author Name	Paper Title	Journal Name	Year	Quarter	Research Paper Status
93.	Aemen Khalid	Impact of internet on social connections in family system. A survey study of residents in Lahore	Pakistan journal of social sciences	2017	2 nd	Published
94.	Javeria nazeer	Impact of social media advertisements on university students	Arts and social science journal	2017	2 nd	Published
95.	Amara iqbal	Impact of	Arts and	2017	2 nd	Published

		mobile phones TV commercials on consumer ACAA behavior	social sciences			
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PSYCHOLOGY						
	Author name	Paper Title	Journal Name	Year	Quarter	Research Paper Status
96.	Saira maqsood	Perceived stress life satisfaction and self esteem in female university students	Clinical and counseling psychology review	2020	1 st	Published
97.	Nida Zafar	Why do people share fake news associations between the dark side of social media use and fake news sharing behavior	Journal of retailing and consumer services	2019	2 nd	Published
98.	Gulzar ahmad	Time varying volatility of stock exchanges comparative analysis of Pakistan with newly industrialized countries	Journal of managerial sciences	2019	2 nd	Published
99.	Gulzar ahmad	Does financial innovation improve performance? analysis of process	Journal of innovation economics and management	2019	3 rd	Published

		innovation used in Pakistan				
100.	Nida Zafar	Cartoon addiction and executive functioning in school going children	Addiction and rehabilitation medicine	2018	2 nd	Published
101.	Gulzar ahmad	Impact of family involvement on the bank risk taking behavior evidence from islamic countries	Springer link (ICMSEM)	2018	2 nd	Published
102.	Saira maqsood	Self esteem and self efficacy among newcasters and news reporters	Centre for clinical psychology	2017	1 st	Published
103.	Saira maqsood	Perceived stress life satisfaction and self esteem among women studying in co education and uni gender institutions	Peshawar journal of psychology and behavioural sciences	2017	1 st	Published
104.	Gulzar ahmad	Deleting zeroes and creating value psychological impact to control inflation	Web of sciences	2017	2 nd	Published
105.	Gulzar ahmad	Corporate governance and cost equity	Journal of managerial sciences	2017	3 rd	Published

		paradox a case of family firms in emerging markets				
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9. 2. RESEARCH PROJECTS ON SUSTAINABILITY SUBMITTED IN DIFFERENT FUNDING AGENCIES

Sr. No.	Names of Applicant	Department	Project Titles	Funding Agency
1.	Dr. Aisha Waheed	Biology	Development of Biofilm consortia with ability to produce biosurfactant as soil formulation: A cornerstone in Agriculture for plants defense against phytopathogens	Planning & Development, Punjab, Pakistan
2.	Dr. Zeeshan Wadood	Biology	A survey on hepatitis B and C prevalence in districts of Punjab province of Pakistan	Planning & Development, Punjab, Pakistan
3.	Dr. Sumaira Mazhar	Biology	Project Description Exploring the potential of <i>Bacillus thuringiensis</i> against mosquito larvae	Planning & Development, Punjab, Pakistan
4.	Ms. Asmara Aftab	Biology	Crops Protection from Phytopathogens by Biological Control	Planning & Development, Punjab, Pakistan
5.	Dr. Shabir Hussain	Chemistry	Economical Production of Pure Zinc Sulfate Fertilizer; Designing of Suitable Industrial Plant (Prototype)	Planning & Development, Punjab, Pakistan
6.	Dr. Ahmad Naeem Akhter	IT	Optimization of IoT Devices working on Cognitive Radio Networks based 5G Networks – Smart City and Safe residential community	Planning & Development, Punjab, Pakistan
7.	Dr. Amir Mehmood Bajwa	Mass Communication	Optimization of IoT Devices working on Cognitive Radio Networks based 5G Networks – Smart City and Safe residential community	Planning & Development, Punjab, Pakistan
8.	Dr. Aftab Ahmad Malik	Computer Sciences	Installation Of High Performance Computing Using 512 Parallel Processors At Garrison University Lahore	Planning & Development, Punjab, Pakistan

9.	Dr. Syeda Mona Hassan	Chemistry	Development of Potent Medicine By Using Herbal And Natural Ingredients Against Covid 19	Pakistan Science Foundation
10	Dr. Anum Ali	Software Engineering	Infection Surveillance System	Pakistan Science Foundation
11	Dr. Imran Afzal	Biology	Multiplex conventional PCR-based cost effective detection of SARS-Cov-2	Pakistan Science Foundation
12	Dr. Shabbir Hussain	Chemistry	Economical Production of Antiseptic Sanitizer from Locally Available Plant Ingredients	Pakistan Science Foundation
13	Dr. Khalid Masood	Computer Science	DIY (Do it Yourself) Testing Kit for Covid 19 Patients using AI (Artificial Intelligence)	Pakistan Science Foundation
14	Dr. Shaista Gillani	Chemistry	Synthesis of Therapeutic agents with potential application against coronavirus diseases	Pakistan Science Foundation
15	Dr Zeeshan Wadood	Biology	A survey and awareness on the prevalence of COVID 19 in the districts of the Punjab, Pakistan	Pakistan Science Foundation
16	Dr. Ayesha Waheed Qurashi	Biology	Development of biofilm consortia with biosurfactant producing ability as soil formulation using Agri-industrial waste	Pakistan Science Foundation
17	Dr. Sumaira manzar	Biology	Evaluation of growth promoting potential of some indigenous bacteria on economically important crops under water stress conditions	Pakistan Science Foundation
18	Dr. Fatima Naeem	Psychology	Work stress, emotional regulation and occupational health and wellbeing of employees working at	Pakistan Science Foundation

			texting Industry: An Intervention Study	
19	Dr. Noureen Naeem	Biology	Use of inulin for the production of low fat bakery products	Pakistan Science Foundation
20	Dr. Shumaila Sikandar	Biology	Production of lignocellulose degradation fungal enzymes towards industrial applications	Pakistan Science Foundation
21	Dr. Syeda Mona Hassan	Biology	Control of aflatoxicosis in chicken by natural products and their application against carcinogenesis	Pakistan Science Foundation
22	Dr. Amjad Khan	Biology	Characterization of microbiological burden and antibiotic resistance in workers of THQ and RHC hospital labs in remote areas of district okara	Pakistan Science Foundation
23	Dr. Muhammad Asif	Computer Science	Automatic E-Billing System	Pakistan Science Foundation
24	Dr. Sana Shahbaz	Biology	Intestinal parasitic infections and associated risk factors among Pakistani children	Pakistan Science Foundation
25	Dr. Shahzada Nadeem Abbas	Biology	Large scale production of hyperthermophilic lipases for industrial usage	Pakistan Science Foundation

26	Dr. Imran Afzal	Biology	Biocontrol of fungal phytopathogens using plant beneficial endophytes bacteria of wild plant	Pakistan Science Foundation
27	Dr. Zeeshan Wadood	Biology	Arsenic oxidation by planktonic cells and biofilms of bacteria isolated from industrial effluents of indigenous environment	Pakistan Science Foundation
28	Dr. Ahmad Nadeem Akhtar	Biology	Optimizing cloud environment by implementing server consolidation techniques in virtualized data centres	Pakistan Science Foundation
29	Sidra Muqaddas & Beenish Sarfaraz	Biology	Microbiological physical and chemical quality testing of ground water resources available at different bore depth levels in Pakistan	Pakistan Council for Science & Technology
30	Dr. Aisha Wahed Querashi	Biology	Utilization of biofilm consortia for keratin extraction from poultrywaste and its applications as fertilizers	Pakistan Council for Science & Technology
31	Hina Qaisar	Biology	Postharvest management of fresh produce using poly saccharide based edible coating a cost effective green approach	Pakistan Council for Science & Technology

32	Dr. Shomaila Sikandar	Biology	Bioconversion of keratinous waste stream by fungal keratinases for possible industrial (leather and poultry) applications	Pakistan Council for Science & Technology
33	Dr. Manzar Zahra Awan	Chemistry	Designing conductive materials based on insulating clay	Pakistan Council for Science & Technology
34	Dr. Muhammad Sohaib	Computer Science	Environmental and Industrial Safety: Real Time Smoke and Fire Detection Using Artificial Intelligence and Embedded Systems	National Research Programme for Universities (NRPU)
35	Prof. Dr. Aftab Ahmad Malik		Center for high performance computing at lahore garrison university Lahore (Installation of HPC with 512 parallel processors at Lahore Garrison	National Research Programme for Universities (NRPU)
36	Dr. Ahmad Naeem Akhtar		Brain to Mobile wireless communication in opportunistic ambient Adhoc Networks	National Research Programme for Universities (NRPU)
37	Raja Irfan sabir		Impact of film consumption and celebrity culture on Pakistan's ideology and cultural sustainability: Mediating role of	National Research Programme for Universities (NRPU)

			subliminal message	
38	Dr. Imran Afzal		Biology Biocontrol of fungal phytopathogens using endophytic bacterial biopesticides	National Research Programme for Universities (NRPU)
39	Col. Dr. Mohammad Amjad Khan (Retd)		Biology Evaluation of infectious burden and antibiotic resistance in hospital laboratories in remote areas of Punjab	National Research Programme for Universities (NRPU)
40	Dr. Zeeshan Wadood		Biology Arsenic oxidation by Planktonic cells and films of bacteria isolated from industrial effluents of indigenous environment.	National Research Programme for Universities (NRPU)
41	Dr. Fouzia Qamar		Biology Bio-Filters: An affordable solution to pollution challenge	National Research Programme for Universities (NRPU)
42	Dr. Shabbir Hussain		Chemistry Formulation of a suitable drug for successful treatment of sepsis	National Research Programme for Universities (NRPU)
43	Asis Jamal		Smart routing based on DDOS detection with intelligent survivable centric network	The National Center For IoTs Grants

			agent	
44	Prof. Dr. Aftab ahmad Malik		Implementation of IoT based connected brain for Automated smart health monitoring and control system using EEG sensor and TMS devices	The National Center For IoTs Grants
45	Prof. Dr. Aftab ahmad Malik		Establishment of Iot center at Lahore garrison university for big data collection	The National Center For IoTs Grants
46	Mohammad Adnan Khan		Smart Village Health care system	The National Center For IoTs Grants
47	Dr. Tahir Ilyas		(CAS) Controlling Android with Speech	The National Center For IoTs Grants
48	Dr. Mohammad Shoaib		Application of Iot, machine learning and multireinforcement learning: Devising an Iot mechanism for monitoring and management of electronic waste	The National Center For IoTs Grants
49	Dr. Mohammad Asif		Blockchain based Security Mechanism for Smart City/Home	The National Center For IoTs Grants

50	Mr. Asfand Yar		IoT energy consumption and management system (ECMS)	The National Center For IoTs Grants
51	Dr. Ahmad Naeem Akhtar		Optimization of IoT Devices working on Cognitive Radio Networks based 5G Networks – Smart City and Safe residential community	The National Center For IoTs Grants