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EDITORIAL

Al-Hamdo-Lillah, with the kind Blessings of Almighty Allah (SWT), and Darood-o-Salaam on Last of His Prophets, Muhammad ﷺ. The Editorial Board (EB) of pakjpsc. in its 16th and 17th meeting accorded approval of publishing this 13th volume, No.13, in hand, published in 2021.

Since petty improvements are underway each Research Article clearly now onwards carries, on its face, the date received, date-accepted and date-published, for authentication.

In this Volume (XIII) No. 13 we received 12 Research articles out of which 09 cleared, 01 deferred and one (pending) not approved by Peer Referees. Since our clientele have now crossed 515 and we are regularly distributing 80% on gratis bases, we have, as per policy recommendation of EB, reduced the number of copies to 100, as 4-5 people in one organization can benefit from one copy, as well as to reduce cost of publishing with only 20% distribution on cost basis. While we are available at www.pakjpsc.org.pk. We can go for six monthly (Bi-annual) publishing, if financial assistance is forth coming from any, corner.

We are confident that Higher Education Commission (HEC) will finally accord its formal recognition, long pending since 12 years. The ISSN, authorities simultaneously were requested to accord/upgrade category of this sustained effort, as we are celebrating Decade of Progress, since 2019. The reply was that it is sufficient that pakjpsc is encoded with print and on-line since 2009, (the first issue), additionally indexed as under:-.

- A. We are continuously Indexing and Abstracting our research articles/papers in National Indexing and Abstracting Services (NIABS) Islamabad, an ISSN-encoded, I.D.2521-5647.
- B. While the International Indexing has been done in (a) Directory of Research Journals Indexing (DRJI); (b) Scientific Indexing Services (SIS) encoded ID-7465 (on 27th Sept-2021; (c) Academic Research Index (ARI); (d) Directory of Open Access Scholarly Resourced (ROAD) and (e) Google Scholar.
- C. Both the co-editors Uzma Kanwal and Nadia Hafeez completed their M.Phil Education in addition to their M.Ed of both and M.Sc (Sociology) and MSCS, the members Editorial board convey congrats as well those EB members who got promotions in their respective institutions/universities are receiving appreciation for still moving ahead.

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THE MARKETING TREND OF FRESH MILK AND REASONS OF PRICE HIKE IN RWP-ISBD TWIN CITIES

Muhammad Hafeez¹ and Tabinda Khwaja²

ABSTRACT

This write-up is based on the observations and record of 03 Economical Dairy Units in Rawalpindi-Islamabad twin cities of six milch buffaloes comprising (i) cost of dairy animals, (ii) Feed and Fodder (the prevailing market rates in the year 2020 and 2021 compared with 2019, (iii) gawalas salaries and (iv) Miscellaneous expenditure (utility bills disposables and consumables). The milk prices worked out are averaged, commonly known as Farm Gate Price (FGP). The marketing trend as observed/noticed for the last 3-4 years, has been 18-20% over and above the FGP, as two-three parties remain involved in profit marking while the overall prices of dairy buffaloes feed N-fodder, gawala's salaries have shown 5.7 to 5.8% increase. The sale rate of fresh milk announced by the govt. are not implemented and consumers the end users are adversely being affected. The food authorities have been suggestively recommended to take measures to contain the price hike.

Key words: Dairy buffaloes, Cost of milk, marketing trend, price hike.

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INTRODUCTION:

Fresh milk has become a traditional need, as a source of animal protein liked by adults and children alike. Different kinds of milk are available in the market namely fresh milk, pasteurized milk, processed milk while various milk products are also available in the market such as yoghurt, cream, butter, cheese and ghee with various market prices. In Pakistan 51.50 million cattle (mainly cows) and 42.4 million buffaloes (mainly females) produced 63.684 million tons of milk, during the year 20-21 while both cattle and buffaloes together produced 4.95 million tons of meat (out of slaughtered only). There had been a contribution of 0.955 million tons of milk produced by 31.6 million sheep and 80.30 million goat (together 111.9 million small ruminants). This milk is not included in the national data as this is spared for lambs and kids new-borns, up-to 2-3 months, sheep/goats simultaneously produced 0.075 million tons of mutton (out of slaughtered animals only). The poultry meat produced was recorded as 1.809 million tons, for the year 2020-21. This investigative article provides the recent updates on prices of live dairy animals feed/ fodder and conc/feed with operational cost (gawals salaries, AHCS, Drugs/vaccines and miscellaneous expenditure) on yearly basis and pre-emptive (projected) figers for 2021-2022, 2023 and 2024 with cost of milk produced and sale, based on a technical feasibility, in Rwp-Isbd, economic milk production, with the objective (i) to work out appropriate Farm Gate Price (FGP) of Fresh buffaloes milk and (ii) to incorporate the operational cost

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based on prevailing market rates and (ii) to dig out middlemen's role in price hike in Rwp-Isbd twin cities.

MATERIAL AND METHODS:

The following updates were obtained for this write-up.

- (i) Daily record of milk produced at 03 different farms (in Rural Islamabad).
- (ii) The FGP of milk, middleman's overhead charges, the retailers shop rate and distribution (door-to-door) in the years 2019-2020, 2021 and preemptive (projected) in the coming year were added.

RESULTS:

- (i) The live dairy buffaloes with av:milk production revealed as Rs.160,000/-, Rs.1,70,000/- and Rs.1,75000/- in the year 2019,2020 and 2021 while these rates averaged to Rs.165,000/-, 1,80,000/- and 1,90,000 for the study year producing 10 liters/day. The milk producer buffaloes of 11lit/day appeared on an av: Rs.1,80,000/-, Rs.1,90,000/- and Rs.20,0000/- for the year 2019,2020 and 2021 respectively as detailed in table No.01.

Table No. 01 Comparison of expenditure over previous years in the Economical Unit (2019,2020 and 2021 without transportation cost (Av.4000-5000) \ each/bargain.

Cost of Dairy Buff.	2019	2020	2021
i. @9lit/day	1,60,000	1,70,000	1,75000
ii. 10 lit/day	1,65,000	1,80,000	1,90,000
iii. 11 lit/day	1,80,000	1,90,000	2,00,000
06 buffaloes with calves			
i. @9lit/day	9,60,000	10,20,000	10,50,000
ii. 10 lit/day	9,90,000	10,80,000	11,40,000
iii. 11 lit/day	10,80,000	11,40,000	12,00,000 (1.20)

- (ii) The expenditure on feeding 06/cows/buffaloes (i) green fodder, (ii) wheat straw/wheat Bhoosa, (iii) wheat brain or replaced with concentrate (conc.) feed for one year, ranged Rs.0.329, 0.384 and 0.439 million in the study year of 2019, 2020 and 2021 respectively, presented in table No.02.

Table No. 02 Comparative picture of Feed/Fodder of Economical Buff. Unit.

	Rs.	Rs.	Rs.
Green Fodder			
@Rs.360/40kgx06 Adult x 365 days	360	380	400 (Market Rate)
Wheat straw Bhoosa Rs.600/40kg,10kg/each	788,400	876700	876,000
Wheatbrain20/kgx03kgeach 60x06x365	560-40kg 306600	580-40kg	600/40kg (rate)
Conc:Feed 60/kgx03x06x365 70/-, 80/-	55% 1,31,400	17550 60% 4,27,050or60%	60% 427000 or 40% 439,200
	160/- 3,29400	384,300	
Subtotal			882,570

- (iii) The gawala salary was recorded with lunch and dinner (A.V.) based on Rs.13000/-PM, Rs.14000/- PM and Rs.15000/- PM for one year was calculated to 0.156, 0.168 and 0.180 million (Table No.03).

Table No. 03 showing the comparison of cost of labor/gawalas

Cost of Labor/Gawalas @Rs. PM	2019	2020	2021
13000	156,000	-	-
14000	-	1,68000	-
15000	-	-	1,80,000
Cost of Animal Shed for 6-8 Buff/cows (50x50 sqft) 10 Marlsa (Millions)			
2.20	2.30	2.60	

- (iv) Cost of animal shed, accommodating 6-8 buffaloes (with 6-8 calves) was averaged to Rs.2.20, 2.30 and 2.60 millions for 2019, 2020 and 2021 respectively (half covered, half open (05 marlas) already owned by the farmer.
- (v) Cost of miscellaneous expenditure for items namely (i) drugs/medicines, (ii) AHCS, (iii) disposables (iv) utility bills and (v) unforeseen was records for one year amounting to Rs.0.194, Rs.0.200 and 0.223 millions (table No.04).

Table No. 04 Comparison of Miscellaneous Expenditure for 06 cows/Buff: with Calves.

Misc. items	2019	2020	2021	% increase
Drugs	50,000	52,000	53,000	1.92
AHCS	60,000	62000	65,000	4.84
Disposables	10,000	12000	13000	8.33
Utility bills	60,000	74000	75,000	7.14
Electricity/gas/petrol/SNGPL				
Unforeseen, guests, News papers easy food students visits etc.	14,000	16000	17,000	6.25
Maintenance/repair				
Sub total	194,000	2,00,000	223000	$\sum x = 28.48$ Mean=5.7
	0.194	0.20	0.223	

- (vi) The first year total expenses recorded for the above items (01-05) amounted to Rs.5.833, in case shed was already existing Rs.2.233.
- (vii) The sale income of milk for first year based, on 20,130 liters milk produced (06 buffaloes) @ Rs.96/lit. amounted to Rs.1.952 millions whereas @Rs.97/lit it amounted to Rs.1.953 and @ Rs.98/lit it was, by simple calculations, Rs.1.972 (as presented in table No.05).

Table No. 05 Expenditure and Income of Economical Dairy unit of 06 Buff: (2021 onwards)

First Years Total Expenditure	Millions Rs.	First year Income Rs.
a- 12,00,000	1.200	@Rs.96/-= 1932480
b- 08,82,570	1.633	@Rs 97/- 1952610
c- 1,80,000	0.180	@Rs.98/-=1972740
d- 26,00,000	2.600	FYM-Not sold
e- 2,73,000	0.223	Male calves-Nil
Grand total	5.833	Total = 1.973

- (viii) The second years total expenditure was limited to operational cost only (Feed/fodder, gawalas salary and miscellaneous items) amounting to Rs.1.95 million while the sale income of milk produced (21,960 liters) @ Rs.98/lit was recorded as 2.19 plus sale of FYM, or used in the fields.

Table No. 06 Expenditure and Income of Economical Dairy Buff: (2021 onwards)

2nd Years Total Expenditure	Millions Rs.	2nd year Income Rs.
a- -	Nil	12 lit/day = 21960
b- -	0.633	@ 98/- = 2.153
c- Plus 10% Calves Fooder	0.1673	@100/-= 2.196
d- @Rs. 16000/-	0.192	FYM-Not sold used in the field
e- Av.10% Increase	0.250	Male calves-Nil growing
Subtotal	1.95	Subtotal = 2.196

- (ix) The third year expenditure and income was almost equal as Rs.2.50 and 2.50 millions with little varieties.

Table No. 07 Expenditure and income of the farm as foreseen.

3rd Years Total Expenditure	Millions	3rd year farm Income
a- Cost of Animals	Nil	Sale of Milk 12 lit/06 buff;
b- Food/fodder	1.460	@100/- 2196=2.196
c- Gawalas salary Rs. 18000/PM	0.2160	FYM=sold=12000-15000
d- Additional building plus store veranda	0.350	03 male calves/buff:
e- Miscellaneous 10% increase	0.2150	Cost of male calves/bull not sold can be replaced with two milch buffaloes
Sub total	2.50	2.50

- (x) This stage was regarded as break even in management sciences, terminology as the growing calves became adults hence the expenditure was increased.

Table No. 08 Expenditure and income of the farm as foreseen.

4th Years Total Expenditure	Millions Rs.	4th year farm Income Rs.
a- Cost of Animals	Nil	Sale of milk 12 lit/day
b- Feed/fodder	1.607	@Rs.102/-= 2.986
c- Gawalas salary Rs.18000/PM	0.360	@Rs.103/- 23.015
d- Open yard fencing, wooden mangers	0.15	Rs.105/-= 3.074
e- Miscellaneous 10% increase	0.250	FYM-20,000/-
Sub total	2.50	3.301

- (xi) The fourth year picture shows again an increase of Rs.0.03 million only (expenditure Rs.3.03 and income as 3.06), as the adults are increasing and operational cost also increasing. This can easily be increased by increasing the rate of milk from Rs.01/to Rs.02 per liter.

Table No. 10 Financial analysis of economic unit of 06 Buff: Islamabad Rural Area (in million)

Years	Expenditure with shed	W/o Shed	Income	Gross Saving
First	5.086	2.486	1.973	Nil
Second	1.813	-	2.1962	1.377
Third	2.790	-	0.5	Nil
Fourth	3.46	-	2.605	Nil
	Break Even			
Fifth	3.780	-	4.270	0.49
Sixth	3.95	-	43920@x106/	4.655

CONCLUSION:

By going through the whole effort and prevailing circumstances, the following conclusions are reached:-

- Dairy farm business be done to provide fresh milk to consumers (the common man).
- The Farm Gate Price (FGP) of milk/litre is reached to Rs.96/-Rs97/-lit based on operational cost as per prevailing market rates of Rwp Isbd town cites.
- The price hike is induced with double/triple middle men ship which needs proper check
- If the farmers get feed ingredients on whole sale rates, the feasibility of FGP com further be decreased.

RECOMMENDATION:

As a result of this study findings, the following recommendations are made to the effect that: -

Program of the Prime Minister, with little Training, will prevail and prices will automatically be reduced or contained at least, InshaAllah.

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POSITIVE RESPONSE AND PROGRESS ACHIEVED IN COMPUTER TECHNIQUES AMIDS, CO-VID-19, ON-LINE SCHOOLING IN RURAL ISLAMABD

Nadia Hafeez¹ Uzma Kanwal² and Muhammad Hafeez³

ABSTRACT

This study although limited to N-77 students of National Police Model School (NPMS), Bharakau, rural Islamabad, involving class-IX (41) and class-X (36) students in newly introduced “On-line schooling had been a great help amidst corona virus pandemic, in the country and closure of schools. Three subjects were selected (a) English (b) Maths and (c) General Science starting Oct-Nov, Dec-2020 and January-2021 and the scores (marks obtained) were evaluated in the Examination of Feb-2021, compared with the examination of Nov-2020. It was observed that an overall 21-24% increase was recorded as progress achieved in this limited quantum of study, in one school only in rural Islamabad. It is thus recommended that since this approach not only, saved to academic duration of students but remained involved in the subject and avoided wastage of time, with the recommendation that such a system may also be practiced in vacations, as well.

Key words: Students achievement, on-line schooling, class IX and X Rural Islamabad, Pakistan

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INTRODUCTION:

On-line schooling was introduced by the Ministry of Education, Govt. of Pakistan during 2020, when the world was deadly hit by Corona Virus (Covid-19) and our country attacked by this viral outbreak pandemic, first identified in Yuwon Province of China in 2019 which spread like fire of the forest. Lock downs were implemented and schools closed, the detail of deaths, active cases, cases recovered and the rate of incidence and control Co-vid 19, being recorded by M/o Health Govt. of Pakistan (NCOC-2019-2020 and 2021).

The school Administration and the Parents-Teachers Association (PTAs) welcomed such a decision, the approach had been a positive step towards engaging students and teachers as detailed in the Ministry of Education (Anionymous-2020).

Over and above the opening of schools in late-January 2021, with a conditional smart lock down and strict observing the Statutory Operational Procedures (SOPs) specially (i) the used of sanitizer and (ii) wearing a mask, not only helped in reduction of spread of contact infection but also encouraged 50% the resumption of students attending the classes had been in line with the priorities of govt. of Pakistan, Imtiaz Ahmed (2019-20).

The teachers were required to develop immediately teaching material and delivering lectures to students, On-line and the students advised the days Homework (H.W).

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The present study was carried out with objectives, namely (i) to observe the responses of students to this new approach (ii) to implement the course contents in 60-80 days and (iii) to compare the scores obtained in the months of Nov. 2020, Dec-2020 and January-2021 with the expected (iv) observation of achievement obtained by the students, through comparing the scores (marks).

MATERIAL AND METHODS:

- i. Our study had been limited to one private school National Police Foundation Model School (NPFMS), Bhara Kahu, Islamabad.
- ii. The students of Class IX and X numbering 41 and 36 were involved (N-77).
- iii. Three subjects were taught, namely (a) English, (b) Maths and (c) G. Science through the study periods, on alternate days.
- iv. The study period was November, December-2020 and January-2021 with proposed exam in Feb-2021.
- v. The scores evaluated (the marks obtained on Average) was conducted in Nov-2020, were compared with the scores evaluated in Jan-2021.

RESULTS:-

Class-IX Response

The response(s) of Class IX, increased slowly in English subject for the months of Oct, Nov, Dec 2020 and Jan-2021, averaged as 32, 38, 55 and 68 % out of 40 students. The response of On-line, out of 42 students was recorded as 30, 36, 48 and 60% in the subject of Math while in G.Sc out of 43 students, the response was record as 34, 37, 47 and 67% in the months of Oct, Nov., Dec-2020 and Jan-2021 respectively, as appear in table No. 01.

Table No.01 School student’s positive response toward online schooling of Class-IX PFMS-Bhara Kahu, Islamabad.

Subjects	No. of Students	January 2021	Dec-2020	Nov.2020	Oct.2020
English	40	68	55	38	31
Maths	42	60	48	36	30
G.Science	41	67	47	37	34
Σx	125	195	150	111	96
Mean	41.66	65	50	37	32
Max.	43	68	55	38	34
Min.	40	60	47	36	30
S.E	0.001	0.074	0.091	0.002	0.0034

Class-X Response

The response of English Class-X students out of N=36, was recorded for Oct, Nov, Dec-2020 and Jan-2021 as 30, 31, 32 and 33 out of 34 students respectively. The response of Maths was recorded as 27, 28, 29 and 32 for the four study months out of 36 students. The response of G.Sc of Class X appeared as 28, 29, 32 and 35, out of 38 students for the study months, as detailed in table No. 02.

Table No.02 School student's positive response toward online schooling of Class-X PFMS-Bhara Kahu, Islamabad.

Subjects	No. of Students	January 2021	Dec-2020	Nov.2020	Oct.2020
English	34	33	32	31	30
Maths	36	32	29	28	27
G. Science	28	35	37	29	28
$\sum x$	108	100	93	84	85
Mean	36	33.33	31.00	29.33	28.33
Max.	38	35	32	31	30
Min.	34	37	29	28	27
S.E	0.091	0.008	0.006	0.074	0.076

Progress Achieved

(i) Class-IX

In all the three subjects (a) English (b) Math and (c) G. Science positive and significant progress was achieved as evidenced by increase in scores (marks obtained), as 16(33.33%), 14(27%) and 15(28.30%) respectively. Out of 40, 41 and 42 students involved on-line and test conducted in Feb-2021 respectively, as presented in table No. 03.

Table No.03 Progress achieved in marks obtained Class IX after examination of online schooling in students of NPMS, Bharakau Islamabad.

Subjects	No. of Students	Nov. Test 2020 (Scores Av.)	Feb-2021 Test (Scores)	Progress % improved
English	40	48%	64%	33.33%
Maths	41	52%	66%	27
G. Science	42	53%	68%	28.30
$\sum x$ =total	123	154	198	88.63
Mean	41	51.33	66	29.54
Max.	42	53	68	33.33
Min.	40	48	64	27
S.E	0.044	0.09	0.019	0.04

- (ii) The scores evaluated and compared with second exam, of students of class X, numbering 34(English), 36 (Maths) and 38(G.Sc), showed positive achievement, as increase, to the tune of 24(44%), 23 (41%) and 24 (41.4%) respectively, as available in table No.04.

Table No.04 Progress achieved in marks obtained by students of Class -X after examination of online schooling of NPMS, Bhara Kahu, Islamabad.

Subjects	No. of Students	Nov. Test 2020 (Scores Av.)	Feb-2021 Test (Scores)	Progress % improved
English	34	54	78-24	44
Maths	36	56	79-23	41
G. Science	38	58	82-24	41.4
$\sum x = \text{Total}$	108	168	71	126.4
Mean	36	56	23.66	42.13
Max.	32	58	24	44
Min.	31	54	23	41
S.E	0.04	0.091	0.001	0.07

CONCLUSION:

After carrying out the complete study, the following conclusions have been arrived at :-

1. Based on this limited study the class IX and X made good use of online schooling, amidst CO-VID-19 and closure of schools.
2. Only one or two students both in class IX and X could not make access, due to lack of communication.
3. Those students who did not have a personal computer/lap-top or any device such as android mobile, shared the system with other class fellows.
4. Video link was also not yet being practical at school level.

RECOMMENDATION:

Such a positive approach had been a healthy exercise and helped students continue their studies which needs to be practiced, even in vacations.

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RANGE VEGETATION ANALYSIS AND ITS PRODUCTIVITY FOR GRAZZING ANIMALS OF RAKH GOHAR WALA DISTRICT BHAKKAR

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ABSTRACT

The present study was carried out in Rakh Goharwala rangeland of District Bhakkar to examine vegetative cover percentage, species composition, range forage production and carrying capacity of the range area to develop base line data and propose guidelines for scientific management. The study revealed that in species composition maximum contribution was added by *Eleusine flagellifera* 35.31 % in Plot No. P34 and 32.23 % in Plot No. P39. For cover percent overall mean value of plant species showed that high value was observed with *Eleusine flagellifera* which was 7.25 % while low percent cover 1.3 % was found with *Cenchrusciliarus*. Maximum forage production 708 kg/ha was recorded in P34 whereas less forage production 620.5 kg/ha was measured in P39. Carrying capacity responded that P34 had CC value (1.3 AU/ha/M) while P39 had CC value (1.1 AU/ha/M).

Key Words: Range Vegetation, Plant Species, Bhakkar, Pakistan

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INTRODUCTION:

Rangelands are those regions of world which by cause of physical limitations, low and uneven precipitation, coarse topography, poor drainage, or icy temperatures are incompatible for cultivation and which are a source of forage for free ranging native and domestic animals, as well as a source of wood products, water and wild life (Miller, 1997).

Position of Pakistan is in the middle of 24 and 37° N and 61 and 75° E. The climate is arid with high solar emission and low rainfall and humidity over maximum parts of the country. Except for the high elevation northern mountains which receive more than 500 mm annually, maximum regions take less than 200 mm yearly rainfall. During the monsoon season i.e. from July to early September, The rainfall distribution differs broadly: 60% of rainfall in Sind and Punjab provinces takes place. During October to March northern mountains and Baluchistan receive extreme rainfall (FAO, 1987).

Rangelands inhabit about 52.20 million. ha area of Pakistan and approximately 8.2 million. ha (40%) of the total land area of the Punjab province consist of rangelands (NCA, 1998; Quraishiet al.1993). Only 6.4 million. ha area, out of total area of rangelands, is in the control of Provincial Forest Departments (Anonymous, 1991).

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Even though great potential range parts are well signified, widespread desert/semi-desert ranges are found in Baluchistan (Southwestern Chaghi-Kharan, Central high lands), Sindh (Kohistan, Tharparkar, Nara) and Punjab (Cholistan, D.G.Khan, Thal). Through the possible exclusion of deserts of Chaghi Kharan, Pakistan's deserts are mostly man-made. These deserts are the outcome of centuries of misuse and overuse such as litter/fuel collection, too much lopping, widespread cutting, burning, uprooting, trampling and over grazing etc. These are simply producing currently 10 to 50 percent of their potential

Rakh Gohar Wala rangeland lies in the Thal area, nearly 50 km from Bhakkar city near Janju-Sharif. RakhGoharwala lies between, 31°-42' N, latitude and 71 °-34' E, longitude and with the rise of 178 m above sea level, a portion of Thal-Bhakkar and Mankera. Soil affiliations which are made of Indus alluvium wind, turned to moving longitudinal edges. Sands arranged NW-SE with moving steamers comprising of long, tolerably soaked sand edges, somewhere in the range of 200 m wide, isolated by about level some that sandy valleys of around the same degree following changes in the dirt qualities have been perceived. Punjab Forest Department administered the Rakh Goharwala rangeland. Rakh Goharwala rangeland covers an area of 24242 ha. Area is distributed into 51 pastures. There are 4 beats and 2 blocks.

REVIEW OF LITERATURE

Chaudhry et al., (2000) shown a study in Rakh Dagar Kotli (Thal) shown a little potential of supportive to only 0.177 Animals Units (A.U) for each hector, for every growing period on a protected and re-seeded pasture. *Eleunurushirsustus* stood at the topmost of the pleasant species (13.85%) and *Cenchrusciliaris* (24.80%) and from the study determined that the Rakh Dagar Kotli was in high grazing pressure from the surrounding area and resource depleted by uncontrolled over grazing. Too much live stock contrast with carrying capacity determined attention further running down of range assets.

Khan et al., (1999) reread that rangeland of Thatta Leghari in the Dera Ghazi Khan District of Pakistan occupied an area of 1004 ha. Topography of the range rising and falling; calcareous soil, is low in organic matter and supportive to standing native crop of largely unpleasant herbaceous plants. Because of uncontrolled grazing the range degraded from its productive potential. Local range (1004 ha) was not grazed in the middle of 1992 and 1993 the. 600 ha area was then reseeded with two introduced grasses, Gorkha (*Lasiuruss indicus*) and Buffel grass (*Cenchrusciliaris*) in 1992 and

1993. At the end of the growing season, during October on both the reseeded and native range, forage production was measured (in 1992 and 1993). While during these 2 years reflected the long term mean conditions with respect to temperature and distribution of precipitation. Reseeded area gave 10 times (4000 kg/ha) more forage than the local range (425 kg/ha) in 1992 and more than double the forage (1250 kg/ha vs. 534 kg/ha) in 1993, a year with 37 mm less total rainfall. For both treatments close examination of the forage harvested in 1993 was determined. Buffel grass was greater in crude protein (7.8%) than Gorkha (6.2%) and Chimber (5.9%; *Eleusine flagellifera*) a local grass. The local shrub, Lana (*Salsola foetida*) had a greater energy value, 2.7 M Cal/kg, than all of the other species. Everyday sheep and goat diets comprised of 32% and 51% shrub, respectively, with grasses, covering the remainder. Shrubs (51%) dominated the goat diets whereas forbs composed 35% of the sheep diet on the reseeded rangeland. Live weight increase differed ($p < 0.05$) among sheep (14 g/day) and goats (34 g/day). Such initial results showed that reseeding was main intervention for Pakistan rangeland development for improving nutrition for minor ruminants.

In Nepal rangelands consist of shrub lands, forest, grasslands and other regions a lot used by grazing animals. Polyculture farming systems had been advanced over centuries by mixing the domestic animals, forest, and rangeland and crop production in most areas of the high mountain regions of Nepal. Rangelands and forest gave medicinal plants, forages, wild life, and water bodies' sources. Domestic animals give milk, meat, manure, wool and energy for transportation and other agricultural tasks. To the animals cropped areas gave cash crops, cereals, pulses, forages, fruits and by-product feedstuff. (Shah and Friend, 1992).

Chaudhry et al. (2010) in another study calculated production of forage at the end of growing season during October, 2007 on both the reseeded/treated and untreated regions in Mari Reserve Forest of Pothwar tract on a total of 911 ha area, was reseeded with *Cenchrus ciliaris* (Dhaman) in 2005-06. Almost 1.6 times (7733 kg/ha) more forage produced in reseeded area than the untreated area (491 kg/ha). Common coverage of grass on an average was 78% and 27% in treated and untreated meadows, respectively. The carrying capacity of Animal Units per Year (AUY) founded on dry biomass of grasses/herbs was set up as 1.18 AUY/ha and 0.07 AUY/ha in treated and untreated regions respectively, or in other words, With an area of 3055 ha Rakh if seeded, can gives fodder to 3605 AUY, otherwise supportive to only 214 AUY. The outcomes showed that reseeding might be vital management exercise for improving degraded rangelands of Pakistan.

MATERIAL AND METHODS:

Rakh Goharwala rangeland covered an area of 24242 ha. Area is distributed into 51 pastures. There were 4 beats and 2 blocks. This study was carried out in pasture number 34 and 39 of Rakh Goharwala rangeland. To achieve the objectives, Quadrat method was used to gather the vegetation parameters namely cover percent and production of forage. Observation were made proper lying of transect lines for sampling vegetation. Systematic sampling, with random procedure was carried out to collect data. Four transect lines (each 100m long) was laid out in the study area. On each transect line, 10 quadrats, 10 m apart, were placed to study the cover percent and production of forage. A total of 40 quadrats were laid in the study area. In each quadrat, species wise cover percent was recorded and afterward all above ground parts of forage plants were cut for estimating forage production. Carrying capacity of the study area was estimated applying 50 percent proper use factor, according to Hussain (1962). Average vegetation cover percentage was also estimated by dividing the total cover of all quadrats by the number of quadrats.

RESULTS:

The analysis showed that the mean air dried forage production of *Cenchrusciliaris*, *Eleusineflagellifera*, *Cymbopogonjwarancusa*, *Suedafruiticusa*, *Cenchrussetigerus* and *Cynodondactylon* in pasture No. 34 was 34 kg/ha, 250 kg/ha, 103 kg/ha, 95 kg/ha 105 kg/ha, 110 kg/ha respectively, as given in the table No.01

The mean air dried forage production of *Cenchrusciliaris*, *Eleusineflagellifera*, *Cymbopogonjwarancusa*, *Suedafruiticusa*, *Cenchrussetigerus* and *Cynodondactylon* in pasture No,39 was 60 kg/ha, 200 kg/ha, 88 kg/ha, 132.5 kg/ha 45 kg/ha, 95 kg/ha respectively, as reflected in the table No.02.

Table 01- Species wise air dried production of forage (Kg/ha) in pasture no.34 (during 5/2016)

Species	Pasture No.		Total	Average	Air Dry Weight (Kg/ha)
	P ₃₄ T1	P ₃₄ T2			
<i>Cenchrusciliaris</i>	5	4	9	4.5	45
<i>Eleusineflagellifera</i>	20	30	50	25	250
<i>Cymbopogonjwarancusa</i>	10.5	10.1	20.6	10.3	103
<i>Suedafruiticusa</i>	10	9	19	9.5	95
<i>Cenchrussetigerus</i>	12	9	21	10.5	105
<i>Cynodondactylon</i>	15	7	22	11	110

Table02 - Species wise air dried forage production (Kg/ha) in pasture no.39 (during 5/2016)

Species	Pasture No.		Total	Average	Air Dry Weight (Kg/ha)
	P ₃₉ T1	P ₃₉ T2			
<i>Cenchrusciliarus</i>	9	3	12	6	60
<i>Eleusineflagellifera</i>	15	25	40	20	200
<i>Cymbopogonjwarancusa</i>	9.1	8.5	17.6	8.8	88
<i>Suedafruiticusa</i>	12.5	14	26.5	13.25	132.5
<i>Cenchrussetigerus</i>	5	4	9	4.5	45
<i>Cynodondactylon</i>	9	10	19	9.5	95

The carrying capacity in the study area was 1.3 AUM/ha.

Table03- Carrying capacity of pasture No.39 during 5/2016

PARAMETER	VALUE
Air dried Forge production (kg/ha)	620.5 Kg/ha
Number of Animal units which can be reared in 1 ha for one month (carrying capacity)	1.1
Number of hectares needed for rearing one Animal unit for one month	0.9

Species composition is the proportion of various plant species in relation to the total on a given range. The method based on species composition involves ecological analysis of the climax and different stages of succession. The species composition was calculated from cover percent and forage production data. With the help of cover percent data and forage production data, species composition was calculated as:

Species composition from cover percentage data

It was calculated with this formula

$$\text{Species Composition} = \frac{\text{Average cover of species} \times 100}{\text{Total average cover of all the species}}$$

Table04- The Association Result of Species wise, air dried forage production (Kg/ha) in Rakh Goharwala during 5/2016 P₃₉.

N	Square	DF	Chi-Square	P-Value
71	06	5	20.1186	0.001

Table05- Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: P₃₄

N	Square	DF	Chi-Square	P-Value
71	06	5	20.1186	0.001

We also apply on P₃₄ this statistical technique but the same result of P₃₉ and P₃₄. Where N is total number of sample. Our result Decision based on the P- Value and chi-square 20.1186, P < 0.05 is significance.

Table06- The Association Average Cover percentage during 5/2016 P₃₄ and P₃₉

N	Square	DF	Chi-Square	P-Value
71	06	5	20.12	0.003

Chi-Square Goodness-of-Fit Test for Observed Counts in Variable			
N	DF	Chi-Square	P-Value
41	5	14.7	0.012

The Chi-square results showed 14.7 and P-value as 0.012. Our result Decision based on the P- Value is significant indicated goodness of fit of observed counts.

Table No.7 Species composition from cover percentage data and Species composition from forage production data P₃₄ and P₃₉

N	DF	Chi-Square	P-Value
40	5	17	0.005

The Chi-square value of 17 of species composition from forage production of P-34 and P-39 indicates. Our result Decision based on the P- Value of P<0.005.

N	DF	Chi-Square	P-Value
71	5	20.1186	0.001

The Chi-square value of 20.1186 of the cover percent of P-34 and P-39 with P<0.001. Our result Decision is significant, evidencing the values and tests as accurate.

Two-Sample T-Test for forage production from P ₃₄ and P ₃₉				
Sample	N	Mean	S.D	SE Mean
1	6	11.80	6.89	2.8
2	6	10.34	5.62	2.3

The Difference between P₃₄ and P₃₉ = P₃₄ - P₃₉=0 or P₃₄ = P₃₉
T-Test of difference = 0 (vs not =):

T- Value	P-Value	DF	Pooled SD
0.40	0.696	10	6.2871

The T-value is the less than P-value so our result is acceptance region so P₃₄ and P₃₉ are equal.

Two-sample T-Test for Cover Percent from P ₃₄ and P ₃₉				
Sample	N	Mean	S.D	SE Mean
1	6	6.83	4.47	1.8
2	6	8.62	4.20	1.7

The table above shows values of different columns such as samples in first column in which two sample, sample size =6 and =6, Mean is the average (6.87 and 8.62).

The Difference between P₃₄ and P₃₉ = P₃₄ - P₃₉=0 or P₃₄ = P₃₉
T-Test of difference = 0 (vs not =):

T- Value	P-Value	DF
-0.72	0.493	9

Our result is in rejection region, so P₃₄ and P₃₉ is not equal, on the based on this sample data.

Two-Sample T-Test Species composition from cover percentage data

Sample	N	Mean	S.D	SE Mean
1	6	6.55	4.72	1.9
2	6	6.65	8.11	3.3

The Difference between P₃₄ and P₃₉ = P₃₄ - P₃₉=0 or P₃₄ = P₃₉
T-Test of difference = 0 (vs not =):

T- Value	P-Value	DF
-2.64	0.030	8

Our result is rejection region, so P₃₄ and P₃₉ is no equal on the based on this sample data.

Difference = mu (P3) - mu (P4)

Two-sample T-Test for Species composition from forage production data

Sample	N	Mean	S.D	SE Mean
1	6	11.8	6.89	2.8
2	6	16.67	9.05	3.7

The Difference between P₃₄ and P₃₉ = P₃₄ - P₃₉=0 or P₃₄ = P₃₉
T-Test of difference = 0 (vs not =):

T- Value	P-Value	DF
-1.05	0.322	9

Our result is rejection region so P₃₄ and P₃₉ is not equal, on the based on this sample data.
Difference = mu (P5) - mu (P6)

DISCUSSION AND CONCLUSIONS:

On the basis of above facts, it has been found that forage production (AD) amongst most palatable species *Cynodondactylon* were 102Kg/ha, the highest in the study area, while *Cenhrussetigerus* and *Cenhrusciliarus* comes after in production rate i.e. these have less production as compared to *Cynodondactylon*. This high rate is due to reseeding and protection. The production of *Cymbopogonjwarancusa* i.e.95 Kg/ha was high, due to its comparatively less preference by grazing animals. Chi-square as the statistical tool used and so on the basis of our results, of for forage production, it was found that there was an association existed between pasture No.34 and pasture No.39 regarding forage production hence our result remain significant. The cover percent and air dried forage production of *Eleusineflagellifera* was followed by *Suedafruiticusa* and then by *Cynodondactylon* in the study area. This is due to its grazing toleration power. Our results showed that Association for average cover percentage in P₃₄ and P₃₉ also existed because our results being significant. Species composition from cover percentage data and Species composition from forage production data in P₃₄ and P₃₉ shows that there is also an association exist between pasture No.34 and pasture No.39, because showed that our result is significance .This study showed that the deteriorated rangelands of said desert could be improved by artificial reseeding, provided all the operations are carried out, well in time, before onset of the monsoon seasons.

RECOMMENDATION:

As a result of this study findings the following recommendations are made to the effect that: -

Management of rangeland on scientific basis is essential for sustainable forage production for livestock. In addition knowledge of seasonal variations, in rangeland forage production, consumption of different vegetation and types of livestock, is one of

the most parametric tools for utilization of range land resources. The lower production of the rangeland is mainly due to mismanagement of rangeland. If due attention was given to its management, then it will be very effective to restore this “GOD” gifted natural resource.

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ENVIRONMENTAL IMPACT, PREVALENCE AND SURVEY OF DENGUE VIRUS IN DISTRICT D. I. KHAN PAKISTAN

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ABSTRACT

This investigative cum review study was carried out mainly focusing the viral pandemic the dengue viral infection, with particular reference to human patients admitted in Mufti Mehmood Hospital (MMH), Dera Ismail Khan (DI Khan). The total number of patients admitted were 1978, with suspected positive (15.26%) in the year 2017 (Feb-Oct). The Females (F) were=94 (4.78%). The Sero-positive patients revealed the symptoms of (i) fever, (ii) clinical symptoms of (iii) enlarged liver (iv) abdominal pain, (v) gum bleeding (vi) blood in vomitus the literature indicated the menace prevailed in tropics, Asia, Africa and Latin America. It was recommended that Dengue awareness programs be launched by health Depts. and health services related NGOs and period screening be carried out in the general public.

Key words: Dengue Virus, Sero-Prevalence, D. I. Khan, Pakistan

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INTRODUCTION:

History of dengue from where the "dengue" word came? is still not clear. Many years ago, dengue was first written in a medical encyclopedia of China from the Jin Dynasty (existed from 265 to 420 AD) which spoke about an individual who, may be, had dengue. The book talked about a "water poison" that had to do with flying insects. Certain people consider that it arises from the Swahilian phrase —Ka-dingapepol. The word dingais is also believed to come from the Spanish term dengue, means "careful" and might have been used to describe a person in anguish, from the bone pain, of Dengue Fever. Some people think "dengue" came from West Indies, where slaves' shaving dengue were known to stand and walk like "a dandy" due to which the disease was also known as "dandy fever". It popped up as an emerging viral disease and it caused intense problems for public health including a high number of populations, from all regions of the world such as tropical, sub-tropical and temperate regions. It is noted that about 50% of the world population are living in dengue susceptible areas where they can be easily infected by the disease and the remaining 50% of the world population live in dengue indigenous regions. Dengue virus (DENV) have the ability to cause more Human infection than other arbovirus diseases and the ratio of mortality and morbidity is higher. Recent studies show that about 390 million people were infected every year, 96 million people were clinically diagnosed every year while almost 2.5 billion people, living in tropical and subtropical regions of the world are at a high risk of dengue virus transmission. Every year approximately 100 million cases of dengue classical fever and 450,000 cases of dengue hemorrhagic fever were noted. Thus during the last Venezuelan hemorrhagic epidemic, a dengue subtype could be genetically identified as a Southeast Asian biotype, Whether certain ethnic groups are more susceptible or resistant to the hemorrhagic manifestations of dengue as suggested from epidemiologic studies. Severe hemorrhagic disease is more common in Southeast Asia compared

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with Africa and America. In 1981 dengue outbreak in Cuba was observed stating that black individuals were relatively resistant to DHF/DSS and a "resistant gene" present in the African population was speculated.

The World Health Organization (WHO) in 2013 reported on neglected tropical diseases, and called for an increased demand to focus on the prevalence of dengue. The potential of dengue to infect in every environment and the overall increase of the dengue was noted. Especially dengue has shown a 30-fold increase in the ratio of infection over past 50 years which showed no sign of reduction. The report calls for evaluation and integration of the past ratio of infection to achieve a 50% decrease in the death ratio and 25% decrease in the morbidity of the dengue infection by 20% public health including a high number of populations from all regions of the world.

The first infection of dengue in Pakistan was reported in 1994-95 in Karachi (Jahan-2011). After that a lot of outbreaks were reported in Karachi and Lahore and an increased ratio of dengue infection were reported in 2006 in Pakistan which was due to the result of co-circulation of serotypes DENV-2 and DENV-3. Nowadays a small change in the clinical spectrum, pattern and outcomes of dengue has been documented, with an increased incidence of DHF in clinical practice.

The present study has focused on district D.I. Khan (KPK), where least attention has been given during the outbreaks. (Noor & Khan, 2019). Suleman and Faisal (2017) and Abdullah Ali (2019) Reports from Khyber P.K. by Ahmed Aziz (2017) and Anwar Ahmad and Haroon from Mardan Khyber Pk. The district D.I.Khan which is about 300 km away from Peshawar the capital of KPK. The total population of D.I. Khan is 5697 according to the 2017 survey. In the last five years the prevalence of dengue virus is reported through DHF cases. The study is an agricultural zone, where the climate is tropical. The average temperature ranges from 20 to 30 Celsius and the relative humidity is quite high while maximum humidity was recorded in December which is 73%. The average rainfall in D.I. Khan is 559mm.

MATERIAL AND METHODS:

Data collection: The study was done in Mufti Mehmood Hospital (MMH) of D.I.Khan with the approval of superintendent (MS) and in cooperation with medical physicians and laboratory technical staff. The patients admitted with dengue infection symptoms and dengue hemorrhagic signs having positive, IgM, IgG and NS1 anti-dengue antibodies were directly observed and interviewed.

Secondary supportive: As of January 2015, we searched several databases, such as Science Citation Index, Science Citation Index Expanded (SciSearch), Journal Citation Reports/Science Edition, Medline, SCOPUS, EMBASE, Google Scholar, CSA, ProQuest, CAB International, Biological Abstracts, BIOSIS, CAB Abstracts, CSA Environmental Sciences, Biology & Environmental Sciences, EBSCO Discovery Service, EM Biology, Global Health, PubMed, and Zoological Records. The published databases were accessed by using the terms dengue, dengue fever, climate change, Dengue Hemorrhagic Fever (DHF), climate irregularities, risk factors and dengue fever, dengue fever and modeling, vector borne diseases, vector borne disease

modeling, infectious disease surveillance, early warning systems, and secondarily by choosing the terms dengue vectors, *Aedes aegypti* and *Aedes albopictus*, Pakistan. The search included February 2017 to October 2017.

Selection criteria: The articles were selected based on the following inclusion criteria: 1) peer-reviewed, 2) available full text articles, 3) published in English, and 4) only studies considering the distribution of dengue risk with increase in population along with socioeconomic, aspect mosquito density, epidemiological and demographic factors, sero-prevalence, serotype distribution and dengue vector transmission, dengue case infection or incidence. The rationale for inclusion criteria was to focus on the increase in population, mosquito density, and socioeconomics, ecological, epidemiological and demographic factors associated with dengue transmission.

Quality assessment and potential biases: Quality of each study was assessed through the combined criteria suggested by Effective Public Health Practice Project (EPHPP). The quality of each study was determined across seven metrics: selection, study design, data collection, observational time period, interpretation of factors, and full description of dengue diagnosis. Potential bias, within the studies, was also determined.

RESULTS:

The number of total patients were N-1978, out of which 302 (15.26%) patients were screened positive (from February 2017 to October 2017). The number of male positive patients were 208 (68.87%) and the number of female patients were 94 (31.13%). The infected patients were observed to suffer from various symptoms like fever, followed by common clinical features of enlarged liver, nose bleeding and then vomiting. Less common symptoms included abdominal pain, gum bleeding, and blood in vomiting, melena and skin rashes with age as detailed in table No. 1 and No.2 below:

Table 1: Summarized Clinical features of dengue infected individuals.

Symptom	Percentage	Symptom	Percentage
Fever	98.3%	Epitaxis	11%
Vomiting	69%	Gum bleeding	5%
Abdominal Pain	47%	Tornique test	3%
Splenomegaly	28%	Haematemesis	2%
Petechiae	12%		

Table 2: Age wise data of dengue infected patients

Age of patients	No. of patients	Percentage
1 months to 15 years	73	25.92%
15-35	100	47.01%
35-50	55	19.54%
50- onward	33	10.92%

CONCLUSIONED SUGGESTIONS:

Due to insufficient remedial approaches, adopting effective vector control methods are necessary to target the *A. aegypti* or dengue vector mosquito. All sources of stagnant water from the surroundings of congested should be removed. Dengue mosquito bite during daylight, hence, effective precautions should be adopted to avoid

its bites i.e. proper management of waste materials, improving water storage, applying household mosquitoes avoiding items (mosquito coils, pesticides and nets), wearing long sleeved shirts, socks and trousers. Public awareness should be initiated at all levels. Doctor's should give the best possible care to the inpatients' and also educate them about the spread of DF and vector control. It is important to initiate local laboratories in all union council of the country for calculating and reporting the detailed prevalent outbreak along with the reasons, as well as rapid prophylactic measures in district D.I.Khan. It is suggested that research should be done in these areas.

RECOMMENDATION:

As a result of this study findings the following recommendations are made to the effect that: -

1. Dengue Fever and Dengue Disease may be put on the health emergency Alarm to the general public by the Health Depts. of Tropics.
2. Public awareness campaigns be launched by national and international health services related NGOs, in the Dengue-hit countries.
3. It is also recommended that screening of patients (suspected) both adults, across gender, and children be on the top priorities of the surveillance programs of ministries of Health, at Federal and Provinces.

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SPECIES DIVERSITY AND DISTRIBUTIONAL PATTERN OF COCKROACHES IN VEGETATIVE AREAS OF DERA ISMAIL KHAN, PAKISTAN

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ABSTRACT

Cockroaches are found as the most common urban pests of tropical countries, prompting economic and serious health risk problem for humans by carrying microbes and allergens, acting as vector for various pathogens of diseases. The present study was conducted during the period from August 2018 and species identified in 2020 to September 2018 in various human dwelling localities of urban area of district DI Khan collected randomly by hand, food baited and sticky traps throughout the year. Four species of cockroaches namely (i) *Periplaneta Americana* (*P. americana*), (ii) *Blattella germanica* (*B. germanica*), (iii) *Blatta orientalis* (*B. orientalis*), and (iv) *Blatta lateralis* (*B. lateralis*) were collected and identified from the study site. *B. germanica* was the most dominant indoor species with highest diversity indices in study areas. Overall cockroach species diversity was highest in July–September, 2018 with highest Simpson index of diversity and Shannon index as well. *P. americana* was found second broadly distributed in the study area followed by *B. orientalis* and *B. lateralis* were intermediately distributed in residential areas and narrowly distributed in hospitals. It was found that the Residential areas and hospitals were highly infested with *B. germanica* followed by *P. americana*. Population index of *B. germanica* for hospitals was double than residential areas. While *B. lateralis* was observed as displacing *B. orientalis* in outdoor habitat through competing with its habitat and food sources. The infestation rate of different species depended on availability of food sources, sanitary conditions and climatic conditions. It was concluded that infestation could be controlled with knowledge about the biology and behavior, attention to sanitation and effective use of commercial insecticides in the country and elsewhere.

Key Words: Distribution of cockroaches, various species, D. I. Khan, Pakistan

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INTRODUCTION:

Cockroaches are insects of the order Blattodea, which also includes termites. About 30 cockroach species, out of 4,600 are reported associated with human habitats. four species are well known as pests. The ancient group, dating back far as the Carboniferous period, some 320 million years ago. Those early ancestors however lacked the internal ovipositors of modern roaches.

These remain somewhat generalized insects without special adaptations, like the sucking mouthparts of aphids and other true bugs, chewing mouthparts and are likely among the most primitive of living neopteran insects. Prevail as common and hardy insects, and can tolerate a wide range of environments from Arctic cold to tropical heat. Tropic alone look often much bigger than temperate species, and, contrary to popular belief, extinct cockroach relatives and 'roachoids' such as the Carboniferous *Archimylacris* and the Permian *Apthoroblattina* were not as large as the biggest modern

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species. Some species, such as the gregarious German cockroach, have an elaborate social structure involving common shelter, social dependence, information transfer and kin recognition. These appeared in human culture since classical antiquity popularly depicted as dirty pests, though the great majority of species remain offensive and live in a wide range of habitats, around the world, Wang Che (2013). Lying between 31° 49' 58" North, 70° 54' 9" East elevated from sea level with total population of 7,566,000

MATERIAL AND METHODS:

Experimental site: Study was carried out in the urban area of district Dera Ismail Khan Samples were collected from different hospitals, stores, institutes and residential areas in different seasons, in around six months period.

Sampling and identification of cockroaches: Cockroaches were collected randomly from May 2020 to October 2020 with the help of sticky traps, food baited pit-fall traps and manual catching (by hand) from 20 different sites including hospitals, schools colleges and public bathrooms. Using global Positioning System (GPS) of study sites. Traps were kept on the floor close to the wall of room, under cupboards, beds, storage racks, under washbasins and pantry including living room, bedroom, kitchen of houses, store rooms,, canteen area of hospitals, in grocery area, food area of shopping store and in each working room of the Institute/office units for three consecutive nights. Nymphs along with adults were heavily trapped in baits and traps. The collected specimens were transported to zoology laboratory for identification up to species level, with the help of published keys (Pratt and Littig 1969, AbulHab 1980, Hagenbuch *et al.* 1988, Roth 1995 and Choate 2009). Species abundance and richness was evaluated in 2 trimesters from May, 2020 to October, 2020.

Weather Data Collection: Average monthly temperature and humidity data were obtained from the KPK Meteorological Department, Dera Ismail Khan and comparatively analyzed with population density of cockroaches.

Data analysis: The observations were translated data statistically analyzed using Microsoft excel.

Relative Abundance, species richness and evenness of each species of cockroaches was calculated. Diversity of different cock-roach species on the Simpson and Shannon indices was worked out according to Simpson (1949) and Shannon-Weiner function (Odum, 1975). Species relative abundance was compared with average monthly temperature and relation between population density and change in temperature was determined.

RESULTS:

TAXONOMIC IDENTIFICATION.

Revealed 3 genera:

- Genus periplanata was represented by 2 species **P. American** and **P. Brunnea**
- Genus blaberus represented by two species **B. Discoidalis**.
- Genus supella represented by one species **S. Longipalpa**. as detailed in table No. 3.1 below:

Table 3.1: Showing classification of different species collected during study with localities

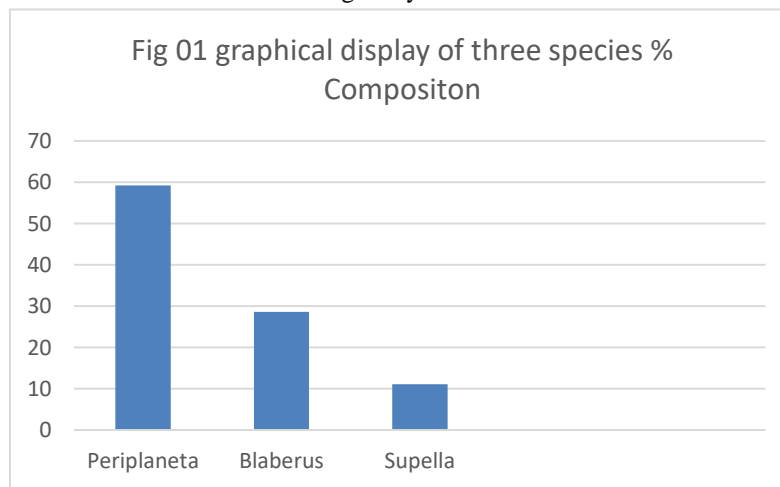
S/No	Class	Order	Family	Genus	Species
1	Insecta	Blattodea	Blattidae	Periplaneta	P. americana
2	Insecta	Blattodea	Blattidae	Periplaneta	P. brunnea
3	Insecta	Blattodea	Blaberidae	Blaberus	B. discoidalis
4	Insecta	Blattodea	Ectobiidae	Supella	S. longipalpa

S#	Species	Locality	Locality	Locality	Locality	Locality	Total
		1	2	3	4	5	
1	P. americana	5	1	3	0	2	11
2	P. brunnea	0	4	0	1	0	5
3	B. discoidalis	1	0	0	5	1	7
4	S. longipalpa	0	0	3	0	0	3
Total		6	5	6	6	3	26

Table 3.2: Showing numbers of cockroaches with percentage distribution belonging to different species collected from different localities of D.I.khan.

No	Species	Percentage
1	P. americana	40.74
2	P. brunnea	18.51
3	B. discoidalis	25.92
4	S. longipalpa	13.82
Total		9499

Fig 01 Showing percentage composition of different species of cockroaches Collected during study.



CONCLUSIONS:

Based on the findings of the study, the following conclusions are made:-

- (i) Nymphs along with adults were heavily trapped, from 26 various localities of urban area of DI Khan.
- (ii) Collected roaches were identified up-to species level.
- (iii) Mainly three genera were evidenced, namely (i) genus *periplanta*, (ii) genus *blaberus*(iii) genus *supella*.
- (iv) The main species found were (a) *P.americana* (b) *P. Brunnu*, (iii) *B. Discoudalis* and (iv) *S. longipala*.
- (v) The distribution was spread over, as 40.74% (b) 18.51% (iii) 25.92 and (iv) 11.11%.
- (vi) It was transpired that massive use of pesticides was not used in roaches' abundance area.

RECOMMENDATION:

As a result of this study findings and conclusion, the following recommendations are made to the effect that: -

1. Proper sanitation and general hygiene be observed towards neat and clean environment, in the use of pesticides.
2. Reduction of roaches will minimize the disease transmission in communities.

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KIDNEY STONES LINKED WITH VEGETABLES AND NON-VEGETABLES CONSUMABLE IN DERA ISMAIL KHAN, PAKISTAN

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ABSTRACT

The present study was conducted to investigate the food induced prevalent causes of stone formation in humans (Adults). A total of eighty eight (N-88) both Group-A 58 (29 M and 29 F) who were positive diagnosed for kidney stones, the Urolethiasis along with one control group-B 30 (15 males and 15 females), using the research instrument, the food frequency questionnaire as well as face to face interviews. The parametric approach was broadly identified on (a) protein intake, (b) fruit and (c) Beverages, further splitted in sub-parameters (i) meat, (ii) red meat (iii) fish (iv) eggs with salad (i) curly lattice (ii) green almond (iii) plums (iv) dates (iv) diet etc. it was concluded that increased scores evaluated in the study Group-A while Bio-Medical Indication (BMI) of non urolethiasis. It was also concluded that red meat and might to other reasons responsible for Kidney stones formation. It was thus recommended that similar studies were needed to be carried out with more sub parametric approaches and with larger Quantum of samples, in other cities of the country and elsewhere.

Key words: - Kidney stones, Diet induced, BMIs, D.I.Khan, Pakistan

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INTRODUCTION:

The urinary system consists of two major glands, bean shaped kidneys, supported with ureters, bladder and urethra. These (bean shaped kidneys), located just middle of the back and below the pairs of ribs. Kidneys transport water and body wastes from the circulating blood and then convert these to form urine (Manjula K, et al. 2015). These are also useful for making an equilibrium balance of salts and other ions in the blood. The tubes of the urethra which are narrow in size; carry the composition of urine from the kidneys transported to a triangle balloon shaped chamber, called bladder. At the same time, urine stored in an elastic, (balloon type) chamber, called bladder which get flattened when urine is removed through urethra out of the body (Guy's, St Thomas. 2014). The term 'Urolithiasis' is a global problem affecting human beings for ancient times and also called 'Nephrolithiasis' or kidney stones (Harika G, Srinivas K.2014). Urinary stone disease is common and poses a significant health care burden in a working-age population. In 1994, data from the National Health and Nutrition Examination Survey (NHANES), estimated the prevalence of stone disease at 6.3% among men and 4.1% among women (StmatelouKK, et al. 2003). More recent analysis recent analysis of declared data suggest rising utilization of health care

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resources for treating patients with stone disease (Pearle MS, et al. 2005, Scales CD, Jr, et al. 2007). There has been no nationally representative assessment of the prevalence of kidney stones in the United States since 1994. Thus, it remains unclear whether the declared data reflect changing patterns of care or changes in the epidemiology of kidney stones (Taylor EN, et al. 2005).

This study was conducted in Dera Ismail Khan, located in Khyber Pakhtunkhwa Province, Pakistan, it is the 37th largest city of Pakistan and fifth largest in the province of Khyber Pakhtunkhwa by population. The district has an area of 7,381 km² and a population of 1,627,132 (1.627 millions) as of the 2017 Census. Dera Ismail Khan has a hot climate with hot summers and mild winters. Precipitation mainly falls in two distinct periods: in the late winter and early spring from February to April, and in the monsoon in June and July. The district of Dera Ismail Khan is bounded on the east by the Bhakkar and Dera Ghazi Khan districts of Punjab. Eastern portions of the district along the Indus River are characterized by fertile alluvial plains, while lands farther from the river consist of clay soil cut by ravines from rainfall. The district is bound on the southwest by a thin strip of South Waziristan district, which separates D.I Khan from the Takht-e-Sulaiman Mountain in neighboring Baluchistan province and to the northwest by Tank District.

MATERIAL AND METHODS:

A total of eight-eigh (N-88) adult humans, divided into group-A 58, (50% across gender and B. Control Group-30 (50% across gender) were involved. Semi-Structured Questionnaire was used to collect information, as per parameters and sub-parameters identified, as itemized in the questionnaire. Gender wise responded score were evaluated and statistical evaluation worked out.

RESULTS:

Participants were asked about consumption of different foods and beverages considered to be correlated with stone recurrence and the foods found to be statistically different between patient and healthy individuals were given in the Table.

Table No.1 Consumption amounts of some food and beverages associated with stone formation.

	Male			Female		
	Patient Group	Control Group	Food and Group	Patient Group	Control Group	Food and Group
	Beverages	Z/p (n=29)	Z/p (n=29)	Beverages	Z/p (n=15)	Z/p (n=15)
	χ (Min-Max)	χ (MinMax)	χ (MinMax)	χ (MinMax)	χ (MinMax)	
Red meat	42.8 (6.6-142.0)	28.5 (3.3-85.7)	Z=-2.596 p=0.009*	28.5 (0-85.7)	28.5 (13.3-57.1)	Z=-0.021 p=0.983
Fish	13.3 (0-85.7)	6.7 (0-85.7)	Z=-1.635 p=0.102	6.7 (0-57.1)	13.3 (6.7-57.1)	Z=-2.069 p=0.039*
Red pepper	0.0 (0-52.5)	6.1 (0-92.0)	Z=-2.140 p=0.032*	3.1 (0-52.5)	6.1 (0-52.6)	Z=-0.802 p=0.422
Curly lettuce	5.7 (0-20.0)	5.7 (0-92.0)	Z=-1.571 p=0.116	11.4 (1.3-20.0)	5.7 (0.7-92.0)	Z=-2.917 p=0.004*
Lemon	4.7 (0-70.0)	35.0 (4.7-70.0)	Z=-4.033 p=0.000**	20.0 (0-70.0)	35.0 (1.2-40.0)	Z=-1.949 p=0.051
Corn	0.0 (0-13.3)	10.0 (0-57.1)	Z=-2.038 p=0.042*	0.0 (0-114.3)	6.7 (0-57.1)	Z=-2.258 p=0.024*
Chard	0.0	0.0	Z=-0.067	0.0	5.0	Z=-2.080

Table No.02 responded scores evaluated for fruits intake b both the groups, across gender

	Male			Female		
	Patient Group	Control Group	Food and Group	Patient Group	Control Group	Food and Group
	Beverages	Z/p (n=29)	Z/p (n=29)	Beverages	Z/p (n=15)	Z/p (n=15)
	χ (Min-Max)	χ (MinMax)	χ (MinMax)	χ (MinMax)	χ (MinMax)	
Pineapple	0.0 (0-3.2)	1.0 (0-3.2)	p=0.947 Z=-2.324 p=0.020*	0.0 (0-27.1)	0.0 (0-3.2)	Z=-1.152 p=0.249
Green almond	0.0 (0-6.7)	3.3 (0-57.1)	Z=-3.048 p=0.002*	0.0 (0-28.6)	0.0 (0-28.5)	Z=-0.075 p=0.940
Plum	2.0 (0-17.1)	6.0 (0-34.2)	Z=-2.419 p=0.016*	2.0 (0-17.1)	4.0 (0-17.1)	Z=-2.962 p=0.003*
Date	0.0 (0-3.3)	3.3 (0-6.7)	Z=-3.910 p=0.000*	0.0 (0-56.6)	0.0 (0-28.5)	Z=-0.229 p=0.819
Orange	4.7 (0-9.3)	9.3 (0-40.0)	Z=-3.226 p=0.001*	4.7 (0-9.3)	9.3 (0-40.0)	Z=-1.078 p=0.281
Sour cherry	2.4 (0-4.8)	2.4 (0-20.5)	Z=-1.733 p=0.083	1.4 (0-41.0)	2.4 (0-4.8)	Z=-2.534 p=0.011*
Loquat	0.0 (0-6.7)	6.7 (0-57.1)	Z=-3.270 p=0.001*	0.0 (0-6.7)	6.7 (0-13.3)	Z=-2.058 p=0.040*
	17.1	34.3	Z=-1.186	17.1	114.0	Z=-2.496

Table No.03 responded scores evaluated of liquied-in-take by both groups (across gender)

Beverages	Patient Control Group (n=29)		Patient Control Food and Group (n=15)		Z/p	
	χ (Min-Max)	χ (MinMax)	χ (MinMax)	χ (MinMax)	χ (MinMax)	χ (MinMax)
Caffeinated coffee	(0-200.0)	(0-200.0)	$p=0.236$	(0-171.4)	(0-200.0)	$p=0.013^*$
Coke	6.6	13.3	$Z=-1.180$	0.0	57.1	$Z=-3.257$
	(0-228.0)	(0-400.0)	$p=0.238$	(0-57.1)	(0-200.0)	$p=0.001^*$
Diet coke	0.0	6.7	$Z=-2.035$	0.0	0.0	$Z=-1.089$
	(0-6.7)	(0-57.1)	$p=0.042^*$	(0-6.7)	(0-200.0)	$p=0.276$
Sparkling water	6.6	13.3	$Z=-1.986$	6.6	6.7	$Z=-0.343$
	(0-200.0)	(0-200.0)	$p=0.047^*$	(0-114.0)	(0-200.0)	$p=0.731$
Lemonade	0.0	6.7	$Z=-3.210$	0.0	13.3	$Z=-3.917$
	(0-57.1)	(0-200.0)	$p=0.001^*$	(0-13.3)	(0-200.0)	$p=0.000^{**}$
Carrot juice	0.0	6.7	$Z=-2.053$	0.0	0.0	$Z=-1.158$
	(0-0)	(0-57.1)	$p=0.040^*$	(0-6.6)	(0-13.3)	$p=0.247$
Orange juice	0.0	6.6	$Z=-2.114$	0.0	6.6	$Z=-2.520$
	(0-13.3)	(0-200.0)	$p=0.035^*$	(0-13.3)	(0-200.0)	$p=0.012^*$
Peach juice	0.0	0.0	$Z=0.962$	0.0	6.6	$Z=-2.762$
	(0-57.1)	(0-114.0)	$p=0.336$	(0-13.3)	(0-200.0)	$p=0.006^*$

CONCLUSION:

It was concluded, based on the results and data analysis that:-

1. Males of healthy group used less proteins, of red meat, as compared to kidney stone patients.
2. Male patients used less red peppers, corn, lemon, as compared to healthy ones.
3. Male patients also used less quantities of pine apple, green almond, and plums.
4. Female group patients consumed less quantity of chard and corn than healthy ladies.
5. Female patients consumed less quality of plum, loquat and cherry than healthy ladies.

RECOMMENDATION:

As a result of this study findings the following recommendations are made to the effect that:

1. Meat intake (proteins red meat) might be used as per recommendations of the health and nutrition guide lines.
2. Fruits and vegetables be used only with the advices of food technologists and bio chemists.
3. Similar studies, with additional parametric approach and greater quantum, be carried out in other cities, of the country and elsewhere.

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TREE PLANTATION IN MEGA PARKS OF ISLAMABAD AND ITS IMPACT ON RECREATION VALUE OF ISLAMABAD CAPITAL TERRITORY

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ABSTRACT

This study was carried out to investigate the tree plantation in four mega parks of Islamabad and its impact on recreational value of Islamabad Capital Territory (ICT) with main objectives of (i) role of tree plantation in increasing aesthetic value by attracting local people, (ii) the perception of visitors towards plantation in these parks and (iii) to document the distribution of various kinds of plantation in such mega parks. The respondents perception views were recorded, based on a semi-structured survey Questionnaire, comprising N-550 people spread over four Mega parks namely (a) Fatima Jinnah Park F-9 (FJ-F-9), (b) Rose and Jasmine Garden Islamabad, (c) Lake view park Islamabad and (d) Kachnar Park I-8 Islamabad. The baseline data established in the study, indicated that there existed (i) large forest trees, (ii) mixed evergreen, (iii) fruit trees and (iv) flowering trees to the tune of 13,399, 3702, 2153 and 1345 in a, b, c and d parks. The park area was simultaneously recorded as 760, 87,33 and 170 acres respectively. The visitors perceptive views indicated by 220 Males (M), 220 Females (F) and 110 children with overwhelming majority as trees and greening served as environment friendly places, beneficial for human health, recreation and physical exercises (jogging and cycling) and natural reservoir for various species of birds. The conclusion indicated that the visitors towards plantation of various forest trees (pines, sheesham, kail) evergreen (sadabaharetc). Majority of visitors claimed visiting the plantation of Mega parks of Islamabad. Both adults (across gender) and children visited mega parks for plantation, greening and recreation. The larger trees such as Pines and ever green (sadabahar and Sukh chain) were flourishing and well maintained. The flowering arrangements in FJ-F-9, Kachnar park and Lake View parks were multifarious in park infrastructure. The Rose and Jasmine garden H/6 was specific for various types of roses and jasmine flowers full of entertainment, amusement and recreational activities in spring season (Feb-March) each year. The larger forest trees proved to be the part of natural ecosystem, for various species of wild-birds and provided natural environment.

Key words: Mega parks Tree Plantation Recreation ICT Islamabad.

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INTRODUCTION:

Forestry as a subject is centuries old, dating back to 12000-15000 year BC, when prophet Nova (Hazrat Nooh Aslm) planted Mega trees, grew for 20 years and were used to build a wooden sailing ship, to save the available believers, the animals and birds with feed and fodder (for upto 40 day and nights) the ever sacred flood (Al-Quraan, Surah-Al-Ambia), translation-Tafseer Kanzul-Eeman).

Forest tree plantation has been reported from various countries, in the light of United Nation's-Sustainable Development Goals (UN-SDGs) (2019) where in member countries of the world forum, could meet 15 out of 17 SDGs, for the well being of the human beings with forest tree plantation. As the recent reports advocately estimate 54% of the human population living in urban cities would reach 64-65% to the year 2025.

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Simultaneously UN World Travel and Tour Organization (UN WTTO-2014) supported the tourist/visitors of Mega parks for the purpose of greening, amusement, and recreational activity, peace of mind and soothing affect to the physique, health, endorsed by Patricia Duaste et al., (2020).

Forest trees in mega parks have been reported as creating healthy environment with one precedence of combating pollution to the effect that air pollution removed by urban trees in Strasbourg city, France, removed 88 tons of pollutants during one –year period (from July 2012 to June 2013), almost one ton of carbon mono-oxide (CO), 14 tons of Nitrogen-di-oxide (NO₂), 56 tons of ozone (O₃), 12 tons of part per million (ppm) coarse particles (with diameters ranged 2.5 to 10 microns including 05 tons of ppm 2.5 and one ton of sulphur dioxide (SO₂). Thus the study was reported to reveal that trees significant elements, to reduce air pollution, as documented by Wissel Selmie and Christiance Webar (2016).

This study was carried out in four mega parks namely (a) Fatima Jinnah F-9 (FJ-F-9) Park, (b) Rose and Jasmine Garden H-6, Islamabad (c) Lake view Park/Rawaldam and (d) Kachnar Park-I-8, Islamabad measuring 87, 33, 760 and 170 acres of land area, with number of various kinds of forest trees, evergreen, fruit trees and flowering trees as 13339 (F-9 park), 1345 in lake view park, 3900 in Anqara park, 3700 in Rose and Jasmine garden H-6 and with 15000 new rose varieties (recently planted) for the land-landscape, beautifying greening and with other recreational/sports activity facilities including jogging and cycling areas, as well as sitting places, picnics spots canopy, arrangement, with bird nests, attracting visitors on week-ends holidays and vacation duly documented by Directorate of Environment Capital Development Authority (DOE-CDA-2020-21) Islamabad.

The Research workers have documented various numbers of urban mega parks in their respective countries, attracting park visitors, for greening and environmentally friendly mega forest trees, evergreen, flowering and other trees as part of natural ecosystem and for various kinds of birds, as places of peace and tranquility, health beneficial and open spaces for recreation as reported by Oimahmod Rehmanov et al., (2019) reporting 10 mega parks of 03 cities in Southern Poland where as 18 different such sites were reported by Huong Nguyen et al., (2016) from Phillippines where various trees and plantation flourished in 6-11 years, with the ratio of 1000 trees planted per ha.

Some of the country mega parks have been reported as National Identity as documented by Ziru Chen et al., (2019) as the parks were established 30 years earlier and declared as protected forest resources (during the period 1982 to 2015) specifically nominated as National Forest Parks(NFPs), as per Chinas four phased Master plan for these NFPs. Similar reports from Spain, Mexico, Brazil and US have been summarized in the review portion of this write-up.

The main focus of the study, as per objective had been to present base-line data on trees plantation and the visitors perceptive responses towards various kinds and type of planted trees namely forest trees, greening, evergreen, fruit trees and flowering as well as managerial approach in the four mega parks of Islamabad. In the light of work done by researchers at home (Pakistan) such as by Gulzar Hussain et al., (2015) from Faisalabad and others from US such as Jassica Turner et al., (2019) Somenova et al., (2020) from Tartaristan and Elena Pauletts et al., (2011) from Italy endorsed visitors perceptions and mediocre level of apparent knowledge towards plantations except that overwhelming majority responded as park visiting provided peace, soothing effect on health, environmently friendly open spaces, in the urban cities and appreciated various colourful trees, flowering trees including trees as natural reservoirs for birds species.

The present status of the four parks under study of ICT Islamabad.

Fatima Jinnah F-9 Park Islamabad: This park comprises an area of 760 acres out of which 440 acres is developed into park while 320 acres is yet to be developed. The total number of plants growing include 13399 trees, majority of which include (i) Pine (*Pinus roxburgii*) 1620, (ii) Jacaranda (*Gacoranda Miniosifalia*) 1087, (iii) Kachnar (*Baurinia Alva*) 740, (iv) Dharek (*Ceyloncedar/Melia Azedarach*) 667, (v) Arjun (*Terminalia Arjuna*) 695, (vi) Ficus different species 491, (vii) Malalok 292, (viii) Sapiun (*Sapium Sebiforum*) 390, (ix) Alstonia 344 and (x) Amal Tas (*Casia Fistula*) 450.

Lake view park/Rawal Dam Islamabad: The total number of plants in this park are 1345 spread over 170 acres of land comprising mainly (i) Pine (*Pinus roxburgii*) 248, (ii) Jacaranda (*Gacoranda Miniosifalia*) 122, (iii) Gravelia (*Jrevillea Robusta*) 117, (iv) Kachnar (*Baurinia Alba*) 29 and (v) Sukh Chain (*Pongamia Pinnata*) 250.

Rose and Jasmine Garden H/6 Islamabad: This park comprises a total area of 87 acres which contain upto 18000 different plants of roses consisting of 130 varieties. The number of Jasmine (j) plants is 4070 consisting of J.White 1000, J.Yellow 3000, Jasmine Star 70

only. This park also contain (i) Pine trees (*Pinus roxburgii*) 100, (ii) Sukh Chain (*Pongamia Pinnata*) 160 and (iii) Fig (*Ficus Cerica*) 70.

Kachnar Park I-8 Islamabad: This park is spread over an area of 33 acres and the number of plants update is 3702 which comprise (i) Kachnar (*Baurinia Alba*) 1410, (ii) Shahtoot (*Mulberry*) 215, (iii) Sheesham/Rose wood (*Dalbergia Sigsoo*) 155, (iv) Pine trees (*Pinus roxburgii*) 106, (v) Amaltas 95, (vi) Sukh Chain (*Pongamia Pinnata*) 47, (vii) Citrus (*Citrus Sinensis*) 182, (viii) Different fruiting plants 548 (comprising Jaman, Apple, Lemon, Plum etc.)

METHODOLOGY:

The following manageable number of respondents was targeted for the study, as per outlines below:-

	Parks	M	F	Children	Total
(i)	F-9 park	40	40	20	100
(ii)	Lake-view park	100	100	50	250
(iii)	Rose and Jasmine Garden	40	40	20	100
(iv)	Kachnar Park I-8 Ibd.	40	40	20	100
	Total	220	220	110	550(N-1)

A minimum of 16 (N-2) respondents namely (a) Forest officers (b) Park officers/supervisors regarding tree plantation in mega parks were involved for obtaining information.

RESULTS:

The perceptive responses of visitors on plantation FJ-F-9 park Islamabad.

The total numbers of visitors (N-100) including 40:40 (M-F) across gender, and 20 children responded on the questionnaire A, revealed mean values of 35%, 30% and 45% towards the parameters of (i) Forestry Pine trees, (ii) Ornamental/evergreen and (iii) Seasonal Flowering, as detailed in table 01.

Table 01 Visitors perceptions towards forest tree planted in FJ-F-9 Park Islamabad.

Category of Visitors	Sequence	df	Percentage		
			Forestry (Pines etc)	Ornamental/ Evergreen	Seasonal Flowering
Male	40	39	45	20	35
Females	40	39	25	40	55
Children	20	19	35	20	45
Total/Mean	100	97	35	30	45

The perceptive visitors response(s) on plantation in Lake View park, Rawal Dam.

The total numbers of visitors (N-250), including 100:100, M-F, across gender with 50 children cumulatively responded for parameters of (i) Forest trees, (ii) Ornamental/ever

green, (iii) Seasonal flowering (iv) Jogging track and (v) Birds as 60%, 38.33%, 66.66%, 71.66% and 82.66% respectively as displayed in table 02.

Table 02 Visitors perceptions towards forest tree planted Lake view Park Islamabad.

Category of Visitors	Sequence	Df	Percentage		
			Forestry (Pines etc)	Ornamental/ Evergreen	Seasonal Flowering
Male	100	39	60	45	65
Females	100	39	55	40	60
Children	50	19	65	30	75
Total/Mean	250	247	60	38.33	60.66

Visitor’s perceptive response(s) of forest trees plantation in Rose and Jasmine Garden H/6 Islamabad.

The total number of visitors (N-100) with 40:40 M-F across gender and 20 children collective responded on parameters of (i), (ii), (iii) and (iv) as 26.66%, 36.66%, 68.33% and 72% respectively, as laid down in table 03.

Table 03 Visitors perceptions towards forest tree planted in Rose and Jasmine Garden H/6 Islamabad.

Category of Visitors	Sequence	Df	Percentage		
			Forestry (Pines etc)	Ornamental/ Evergreen	Seasonal Flowering
Male	40	39	25	35	65
Females	40	39	30	40	70
Children	20	19	25	35	70
Total/Mean	100	97	26.66	36.66	68.33

Visitor’s perceptive response(s) toward tree plantation in Kachnar park I-8 ISBD.

The total respondents (N-100) 40:40 M-F across gender with 20 children showed a mean percentage of 35, 50, 68.33 and 72.66 on parameters of (i), (ii), (iii) and (iv) respectively as presented in table 04

Table 04 Visitors perceptions towards forest tree planted in Kachnar Park I-8 Islamabad.

Category of Visitors	Sequence	Df	Percentage			
			Forestry (Pines etc)	Ornamental/ Evergreen	Seasonal Flowering	Jogging Tracks
Male	40	39	30	45	60	68
Females	40	39	35	50	75	76
Children	20	19	40	55	70	74
Total/Mean	100	97	35	50	68.33	72.66

B-Visitors Comments on facilities in four mega parks of Islamabad.

4.2.1 Visitors comments evaluated on FJ-F-9 Park Islamabad

The total visitors (N-100) 40:40 M-F across gender with 20 children showed cumulatively evaluated scores of 81.66, 38.33, 76.66 and 71% on the queried parameters of (i) security, (ii) sitting arrangement (iii) recreation and refreshment/picnic respectively as available in table 05.

Table 05 Visitors comments evaluated towards facilities in FJ-F9 Park Islamabad

Category of Visitors	Sequence	df	Percentage			
			Security	Sitting arrangement	Recreation	Refreshment
Male	40	39	80	40	65	70
Females	40	39	85	45	40	65
Children	20	19	80	30	85	78
Total/Mean	100	97	81.66	38.33	40	76.66

4.2.2 Visitors Comments on Rose and Jasmine Garden F/6 Islamabad

The total responded comments of (N-100) 40M:40F across gender with 20 children commented cumulatively on parameters of (i), (ii), (iii) and (iv) as 36.66, 45, 31.66 and 65.33 percent respectively as detailed in table 06.

Table 06 Visitors comments evaluated towards facilities in Rose and Jasmine Garden Islamabad.

Category of Visitors	Sequence	df	Percentage			
			Security	Sitting arrangement	Recreation	Refreshment
Male	40	39	35	45	30	60
Females	40	39	40	40	35	70
Children	20	19	35	50	30	65
Total/Mean	100	97	36.66	45	31.66	65

4.2.3 Visitors evaluated comments on Lake View park Rawal Dam towards facilities, Islamabad.

The total visitors (N-250) 100:100 M-F across gender with 50 children commented on parameters of (i), (ii), (iii) and (iv) as 83.33, 90, 93.33 and 76.66 percent, respectively as available in table .07.

Table 07 Visitors comments evaluated towards facilities in Lake View park Islamabad

Category of Visitors	Sequence	d.f	Percentage			
			Security	Sitting arrangement	Recreation	Refreshment
Male	100	99	85	90	95	70
Females	100	99	80	95	90	75
Children	50	49	85	85	95	85
Total/Mean	250	247	83.33	90	93.33	76.66

4.2.4 Visitors evaluated comments towards facilities of Kachnar Park I-8 Islamabad

The total respondents of (N-100) 40M and 40F, across gender with 20 children commented on parametric facilities of (i), (ii), (iii) and (iv) as 75, 55, 25 and 18.33 percentage as displayed in table 08.

Table 08 Visitors comments evaluated towards facilities in Kachnar park Islamabad.

Category of Visitors	Sequence	d.f	Percentage			
			Security	Sitting arrangement	Recreation	Refreshment
Male	40	39	70	60	30	15
Females	40	39	75	55	25	20
Children	20	19	80	50	20	20
Total/Mean	100	97	75	55	25	18.33

C- Visitors perceptive Knowledge towards tree plantation in four mega parks of Islamabad

4.3.1 Visitors perceptive knowledge towards plantation in FJ-F-9 Park Isbd.

The total visitors of N-100, comprising 40M:40F and 20 children cumulative scores value, were recorded, in the parameters of plantation as (i) greening, (ii) seasonal (iii) flowering and (iv) Adaptive were 90, 76.66, 75.33 and 60.66 percent as appear in table 09.

Table 09 Visitors knowledge towards plantation in F-9 Park Islamabad (%)

Category of Visitors	Sequence	df	Percentage			
			Greening	Seasonal	Flowering	Adapted
Male	40	39	85	78	80	65
Females	40	39	90	74	76	72
Children	20	19	95	60	70	45
Total/Mean	100	97	90	76.66	75.33	60.66

4.3.2 Visitors perceptive knowledge towards plantation in Rose and Jasmine Garden F/6 Islamabad.

The total visitors N-100 comprising 40:40 across gender and 20 children when asked their knowledge towards (i), (ii),(iii) and (iv) in the rose and jasmine garden the cumulative scores evaluated showed 69.66, 60, 64.33 and 51.33% respectively as laid down in table 10.

Table 10 Visitors knowledge towards plantation in Rose and Jasmine Garden Islamabad

Category of Visitors	Sequence	d.f	Percentage			
			Greening	Seasonal	Flowering	Adapted
Male	40	39	78	72	85	64
Females	40	39	76	68	60	52
Children	20	19	55	40	48	38
Total/Mean	100	97	69.66	60	64.33	51.66

4.3.3 Visitors perceptive knowledge towards plantation in Lake view park Rawal Dam Isbd.

The total respondents N-250 comprising 100:100 M-F across gender with 50 children responded towards sub parameters of knowledge of plantation in Lake view park, Rawal Dam Islamabad. The cumulative scores evaluated showed 86, 74, 70.33 and 51.66 percent of (i) greening, (ii) seasonal, (iii) flowering and (iv) adapted, respectively, as displayed in table 11.

Table 11 Visitors knowledge towards plantation in Lake view park Islamabad

Category of Visitors	Sequence	df	Percentage			
			Greening	Seasonal	Flowering	Adapted
Male	100	99	86	72	60	56
Females	100	99	87	70	75	54
Children	50	49	85	80	76	45
Total/Mean	250	247	86	74	70.33	51.66

4.3.4 Visitors perceptive knowledge towards plantation in Kachnar park I-8 Islamabad.

The total visitors N-100 of kachnar park comprising 40:40 M:F across gender will 20 children responded on their knowledge of plantation in terms of (i) greening, (ii) seasonal, (iii) flowering and (iv) adapted, showed mean scores evaluated as 60.66, 80, 90 and 74.66%, respectively as available in table 12.

Table 12 Visitors knowledge towards plantation in Kachnar park Islamabad (%)

Category of Visitors	Sequence	d.f	Percentage			
			Greening	Seasonal	Flowering	Adapted
Male	40	39	64	80	90	80
Females	40	39	70	85	95	78
Children	20	19	48	75	85	66
Total	100	97	60.66	80	90	74.66

4.3.5 Cumulative response of visitors towards their knowledge

The cumulative responded mean values of all the N-550 visitors of four mega parks on the parameters of (i) greening (ii) seasonal, (iii) flowering and (iv) adapted ones, showed 76.58, 72.65, 75 and 60% as presented in table 13.

Table 13 Cumulative visitors mean values of response on perceptive knowledge of four mega parks of Islamabad (%)

Sr.No.	Greening	Seasonal	Flowering	Adapted
a	90	76.66	75.33	60.66
b	69.66	60	64.33	51.66
c	86	74	70.33	51.66
d	60.66	80	90	74.66
N=550	76.58	72.65	75	60

D- Technical Response of Forest Deptt: Personnel of plantation in four mega parks in Islamabad.

In addition to visitors perceptive response(s) of four mega parks the technical personnel (N₂-16) were queried to respond, based on semi structured Questionnaire-B on the sub parameters of (i) large trees (pines), (ii) Evergreen (SadaBahar and Nain Sukh), (iii) Flowering plants, (iv) Maintenance of the parks, (v) security, (vi) Recreation, (vii) Jogging track, (viii) cycling track, (ix) birds' nests and (x) refreshment arrangement in each of the four parks, namely (a) FJ-F-9, (b) Rose and Jasmine Garden (c) Lake View park Rawal Dam and (d) Kachnar park I-8.

The mean scores evaluated in Park (a) sub parameters (i) thru (x) showed percentage values of 86.66, 94.33, 74.33, 71.66, 65.33, 82, 68, 45.55, 38.66 and 58 respectively.

The percent scores of 16 respondents towards park (b) were 71.33, 66.66, 85, 68.33, 58.44, 67, 72, 36.66, 41.44 and 36 respectively. These values towards parks (c)

were recorded as 84.33, 87.66, 83.33, 91.55, 73.33, 96.44, 90.33, 85.55, 53, and 86.66 percent respectively. The technical responses of 16 forest personnel on parameters of (i) thru (x) recorded for Kachnar park (d) were 66.66, 76.33, 64, 81.66, 72, 56, 30.33, 74.66 and 28 respectively presented in table 14.

Table 14 : Technical Response(s) of Forest Department Personnel on plantation in four mega parks Islamabad

S.#	Category of Respondents	Parameters	Nos.	df	FJ-F9 Park	Rose and Jasmine Garden	Lake View park	Kachnar Park
01	Forest Officers/ Supervision	Pines	16	15	86.66	71.33	84.33	66.66
02	Forest Officers/ Supervision	Ever Green/SadaBahar/ Sukh Chain	16	15	94.33	66.66	87.66	76.33
03	Forest Officers/ Supervision	Flowering	16	15	74.33	85	83.33	64
04	Forest Officers/ Supervision	Maintenance	16	15	71.66	68.33	91.55	81.66
05	Forest Officers/ Supervision	Security	16	15	65.33	58.44	73.33	60.00
06	Forest Officers/ Supervision	Recreation	16	15	82	67	96.44	72
07	Forest Officers/ Supervision	Jogging Track	16	15	68	72	90.33	56
08	Forest Officers/ Supervision	Cycling Track	16	15	45.55	36.66	85.55	30.33
09	Forest Officers/ Supervision	Bird Nests	16	15	38.66	41.44	53	74.66
10	Forest Officers/ Supervision	Refreshment arrangement	16	15	58	36	86.66	68

E- Additional supportive information in four Mega parks of Islamabad

After having completed the information collected, on visitors responses, on plantation (questionnaire-A) and technical response of forest personnel on plantation, (large trees, ever green, flowering, jogging track, facilities and management/maintenance) based on questionnaire-B. The addition supportive information was also added in this study as under:-

(a) Observations

Frequent visits were paid to each as follow up, and double checking of the responded values of visitors for authentication and visitors problem, slogans heard towards making more arrangement for imported plants, be introduced, and recreational facilities in F-9 and Rose and Jasmine Garden respectively.

(b) Tree plantation campaign coordination with NGOs and School Children.

The Directorate of Environment also supportively participated and coordinated in plantation campaign will school children and NGOs, in various park areas which has photographically added in this thesis write-up.

CONCLUSIONS:

Based on the dedicated effort of the study, the perceptive response(s) of 550 visitors of the four mega parks on various parametric approach, the following conclusion are made:-

- (i) Majority of visitors claimed visiting the plantation of Mega parks of Islamabad.
- (ii) Both adults, across gender and children visited mega park for plantation, greening and recreation.
- (iii) The larger trees such as Pines and ever green (sadabahar and Sukh Chain) were flourishing and well maintained.
- (iv) The flowering arrangements in FJ-F-9, Kachnar parks and Lake view parks were multifarious in park infrastructure.
- (v) The Rose and Jasmine garden H/6, was specific for various types of roses and jasmine which was full of program in spring season (Feb-march) each year.
- (vi) The larger forest trees proved to be the natural reservoirs, for various species of wild-birds and provided natural environment for the birds.
- (vii) Established for the last 3-4 decades the four mega parks are a source of better environment combating heat stress and beneficial for human health.
- (viii) The visitors responded views supported the mega parks as source of peace, soothing eye-sight and as source of human inter action.
- (ix) The jogging tracks and cycling tracks, (separate for ladies), especially in FJ-F-9 Park was appreciated by over whelming majority of visitors.
- (x) The managerial aspect of technical personnel of DOE-CDA highlighted the various species, planted, the park mega structured and arranged for increased manpower and additional facilities in the parks of Islamabad.

RECOMMENDATIONS:

In the light of the study carried out the following recommendations are made:-

- It is recommended based on the efforts made that detailed identification of the trees both forestry, evergreen and flowering trees, be updated in such studies.

- Although the visitors perceptive response(s) were very frank, technical comments may also be considered in such studies.
- Managemental points raised by the visitors as well as technical personnel of forest Deptt: may also be considered for further improvement of the mega parks.

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EFFECT OF SCAFFOLDING ON ENGLISH ESSAY WRITING SKILL OF SECONDARY STUDENTS, IN RURAL ISLAMABAD: A REVIEW

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ABSTRACT

The teaching of the writing is very important at the school level as many schools are working on it. Many schools of Turkey are not working on the writing skills of the students but working mostly on the text books and not working on the teaching writing skills because of lack of the time and energy used in these writing instructions facing difficulty in the writing of English as a Foreign Language (EFL). Whenever the students were conducted with a writing pretest, showed difficulty in the writing, especially in vocabulary and grammar, majority of the students faced this difficulty. A number of the experts have worked a lot on it and explored many ideas to improve the writing skills of the students as described by (Faraj, 2015).

Key words: Scaffold in, Easy writing, Spelling Vocabulary Pre-Test and Post Test Review

The work carried out by various Researchers in presented:

Scaffolding Effect on EFL Students: Faraj (2015) conducted a study on scaffolding writing ability in English as foreign language (EFL), through instructional approach at Keya University, English Language Department (ELD), involving 30 students subjected to pre-test and post-test, aimed to investigate teacher's Scaffolding effect on student's English learning, specially writing capability. The process of English writing was evaluated in the parameters of (i) revising, (ii) drafting, (iii) pre-writing (iv) editing and (v) publishing. The results found showed that students had positive significant improvement in post-test as compared to pre-test scoring. It was concluded that majority of students had faced difficulties of vocabulary, grammar and recommended scaffolded instructions.

Riazi and Rezai (2011) focused on the teacher and peer scaffolding behaviors with effects in EFL students writing improvement that the eleven (11) different behaviors in the post-test had positive significant effect in 120 students, of two EFL classes, involving two groups of 60 students of (i) teachers scaffolding and (ii) peer-scaffolding approach. The t-test results showed that peer-scaffolding instruction was more successful in EFL students. The eleven different behaviors included (i) vocabulary, (ii) grammar, (iii) Tense(s), (iv) hand-writing, (v) spellings, (vi) comprehension, (vii) use of words, (viii) selecting words/choice of selection, (ix) corrections after scaffolded instructions, (x) memory use and (xi) words from texts per voice. It was recommended that EFL in social studies needed peer-scaffolding for improvement.

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Sasan, Abbas and Hossein(2011) identified the three different types of scaffolding, namely (a) High structural, (b) Low structured and (c) Non-structural approach helped the students on the writing ability of EFL learners, involving 114 students. As further reported, all the three mechanisms of scaffolding gave better results but the low structural scaffolding out-performed significantly the other two types of high structured and nonstructural scaffolding instructions. The conclusions provided a positive support for the approach of gradual help of low-structural scaffolding being a key factor of Zone of Proximal Development (ZPD), as recommended. The results showed that low-structured scaffolding practice out performed than the high structured scaffolding. It was thus concluded that a gradual help, was a key mechanism for improvement of writing capabilities of learner students.

Bataineh and Obeiah(2016) find out the effect of scaffolding and portfolio assessment of Jordanian students, in English as Foreign Language (EFL) learners writing, pertaining to grade ten students, taking 15 girls students providing them scaffolding instructions towards (a) generate ideas, (b) structure, (c) draft preparing and (d) editing their written paragraphs, the agency's scaffolding techniques was used. The 28 students were instructed conventionally according to teacher's guide. The results indicated that the experimental group who out performed because they were provided scaffolding based instructions. The portfolio based assessment out performed the control group significantly. Lastly, it was recommended to implement such techniques, to improve student's English writing abilities.

Zangoei (2016) gave an investigative approach in a study, carried out on socially constructed mechanism in EFL writing of scaffold planning, in remote area of Iran, involving 45-lower intermediate class Quick Placement Test (QPT). The one experimental group was assisted by more proficient EFL teacher while in other group, teacher assisted, as a routine. The results indicated effectiveness of scaffolding instructions but no significant, difference was evidenced in post-test scores. The conclusions indicated, however that pedagogical implications for employing scaffolding techniques in EFL context was required at lower intermediate and upper intermediate level.

Bigdeli (2015) was in view on Impact of scaffolding on complexity and accuracy of Iranian EFL from the perspective of Socio Cultural Theory (SCT), knowledge of an L2 constructed and internalized through interaction, with the "computational model" of learning that focused on psycho linguistic processes isolated from social context. The study

was an attempt to investigate whether scaffolding, had a construct of SCT, had any significant effect on complexity and accuracy of Iranian EFL learners' narrative writing. The total thirty eight EFL learners from Iran were learning English at a language institute within two intact groups (one was Experimental group=18, and second was control group=20). Who took part in the study. The treatment was for one semester in which the students wrote four narrative writings, based on their book of English course. The writings of these two groups were rated in the terms of syntactic complexity and accuracy. The results of the study indicated that scaffolding had a significant effect on complexity and accuracy of Iranian EFL learners' narrative writing. In other words, the participants in the experimental group who experienced different kinds of scaffolding i.e. expert scaffolding, self-scaffolding and reciprocal scaffolding, could write more complex and more accurate narratives, as compared with those in the control group for whom scaffolding was not practiced. It was recommended to be used sustainably.

Kanyakorn, Jiraporn and Rattanee korn(2017) focused on the main errors in written English of EFL students of Thailand, evaluating 104 pieces of writing by 26 students and observed frequently committed errors of mainly (a) grammar, (b) spelling, (c) sentence and (d) vocabulary together with limited knowledge and carelessness. In conclusion, it was suggested that EFL students must be given intensive knowledge of English grammar and vocabulary as well as a feedback from their previous English writing, must be taken in to account for further regular instructions towards improvement.

Jalaluddin (2014) cross examined the scaffolding in learning to write and the focus was on teachers and learners of the rural area and specially the writing of the students of the remote areas. The role of teacher in development of students' writing was also investigated the teacher's way to help her students in teaching writing. The effects of teacher's assistance were also found in the students writing. For this purpose , the $\frac{3}{4}$ of the students were involved and their teacher of English were also involved . The two types of data were collected for this purpose .The first data was collected in the form of observation and the recordings were also made for 6 months. The second data collection form was written practice of the students which was done with the help of students. The written work of the students was analyzed. The topic of the essay which was chosen for the discussion was "my father" The results showed that there was a significant difference in students written work after discussion and other method using with them .When teacher assisted them, there was improvement in students' writing .

Moin and Mohammad (2019) found the effect of scaffolding on writing skills acquisition in EFL context. The aim was to out effects of scaffolding on the higher-order thinking skills in the academic writing of students at higher level education system. As more reported a big number of empirical research examined the applicability of scaffolding method in getting writing skills. However, some of them studied the motivational scaffolding and its effect on the writing skills acquisition of English as foreign language for learners. The study discussed two factors of scaffolding, motivational and demotivational kinds, with respect to scaffolding. In this study, the Zone of Proximal Development (ZPD) of learner was also discussed in relevance with Vygotsky's principles also studied. The learner was learning something with the teacher's instructions which were based on scaffolding technique. The results of the study showed how the teachers and the learners follow same way in understanding the technique of scaffolding in getting writing skills and significant improvement was recorded in the overall findings.

Majid and Zohreh (2011) examined the effect of scaffolding by Joint construction of tasks in the writing of EFL learners. The study also investigated the scaffolding effects on writing proficiency by joint construction of tasks, on the composition writing of Iranian EFL learners. The finding of the analysis evidenced that there was a significant difference in the writing of the students who got joint construction instruction. The results indicated that the instructions on joint construction was better in girls, as females outperformed the male students.

Muhammad (2020) focused on scaffolding on online tasks to develop skills of critical writing of 2nd Year Secondary Students. It was aimed to develop the critical writing skills of students by using scaffolding with online tasks. The selection of participants was done randomly. Two groups were made. One was experimental group and second was control group. The study was based on a critical writing skills, rubric and a critical writing skills test. The critical writing skills of students was determined by the use of a checklist validated by specialists in teaching English. During the experimental research, the experimental group got instruction by using scaffolding online tasks, the control group got regular instruction. The duration of experiment was two months. The experimental study was using two methods. One was analytical descriptive method and the other was Quasi Experimental Design (QED). The data was obtained for the student's critical writing skills. Thus, the aim of the study was achieved by using technique of scaffolding with online tasks. It showed a positive effect in development of the critical

writing skills of the experimental group of the students. After looking at the results, it was recommended that teachers should give scaffolding instruction to the students to develop their critical writing skills in English classes by online scaffolding tasks .The use of scaffolding was good to develop writing skills .So, it was recommended for student's writing .

Selection of Secondary Students in Scaffolding: According to Muhammad, Saniya and Sidra(2018), teaching English reading and writing skills, in Pakistan, were not easy and students faced problems by SSC Students involving 20 SSC students and 12 SSC English language teachers together with 05 students note books. The major problems evidenced in the study, pertaining to teaching writing skills, were (a) pre-writing activities, (b) deficient command on vocabulary, (c) grammar, (d) spelling, (e) punctuations, (f) lengthy syllabus and (g) limited time for writing English. It was found that SSC level students needed badly the scaffolded instructions in English writing, making them competent for college level studies.

Saeideh, Maryam and Leila(2014) found impact of scaffolding on content retention, involving 40 girl students, with the age range of 12-15 years, studying in Moral Talkro Language Institute, in Tabrez, dividing in (a) Experimental and (b) Control Group. The experimental group was provided scaffolding technique instructions by the teacher while the control group followed only the instructional book methods. The pre-test and post test scores were compared. It was observed and recorded from the results that experimental group out performed the learners of control group in writing English. It was thus recommended, based on conclusions, that scaffolding techniques be adopted by the teachers to improve English writing capabilities, especially in post-elementary classes.

Muhammad, Almas and Muhammad (2016) enlisted various problems and factors in English as Second Language (ESL) students writing skills in undergraduates, in Pakistan, involving 30 ESL students written test and analyzed, using thematic context. It was observed that the students evidenced insufficient linguistic proficiency as well as command over the factors namely (i) grammar, (ii) syntax, (iii) vocabulary, (iv) writing anxiety, (v) lack of ideas, (vi) radiance on L-1 and weak structure organizations. The results further evidenced various factors attributed to (a) untrained teachers, (b) un-efficient teaching methods, (c) examination system, (d) lack of reading and writing practices, (e) large number of students in a class and (f) low motivation towards written English. It was suggested that remedial measures be taken towards improvement.

Vocabulary, Spellings and Grammar: Ezeokoli (2016) elaborated on an instruction based study towards improving secondary school student's achievements in English essay writing with two structure based instructional strategies, in Nigeria. The study determined two modes of Essay Structure Based Instructional Strategies (ESBIS) to obtain achievements in (a) argumentative and (b) expository (cause/effect) including moderating effects on (c) vocabulary knowledge and (d) essay writing, adopting (i) pre-test and post-test (ii) control group and (iii) quasi-experimental design, using 3x2x3 type of factorial matrix. In the study two Local Govt. Areas (LGAs) with three (03) secondary schools from each LGA while two intact secondary school (SSC-II) classes were assigned the essay writing work while the results of two way interaction effect to treatment and moderator variables was not significant in each of argumentative and expository essay.

Bahmaan, Jafar and Muhammad(2014)found the cognitive reading and writing strategies in L-2 reading comprehension and writing skills improvements in 120 homogenous pre-university students across gender (60-boys/males (M) and 60 girls/female(F), using pre-test scoring for comparison with post-test, involving conventional instructions. The statistical approach of ANOVA was conducted to compare the means of both the groups and it was found that strategic instruction, significantly improved Iranian EFL students, across gender.

Priya and Shivani(2015) carried out a study on writing skills of English of secondary level students, in three districts of Punjab, India. Random sampling procedure was adopted, taking 200 students, 100 each from schools affiliated to (i) Punjab School Education Board (PSEB) and (ii) Central Board of Secondary Education (CBSE), from 10 schools (05 each from two boards) and 20 students per school, from each of three district namely (a) Sangrur, (b) Barnala, and (c) Mansa. The students were asked to write two paragraphs regarding their daily life. The ability of students was evaluated by five components (i) contents, (ii) organization, (iii), vocabulary (iv), Language use and (v) mechanics (construction of tense). The results revealed, based on t-test, significant difference in the performances of learners of the two boards together with sub-skills of writing were also compared. It was concluded that he results were below than the expectations in overall performance and recommended scaffolded instructions be continued on sustainable basis for improvement.

In a National Survey Report on "Teaching Writing to high School Students" from USA,(Wherein 361 out of which 53% were women), teachers were surveyed asking as to

how, the students appeared in writing. The evidence was recorded on the parameters identified as (a) writing practices, (b) the adaptation about weaker writers and (c) assessment of writing skills, (d) beliefs about the importance of writing and (e) judgment about the students writing capabilities. Majority of the students when evaluated, the teachers responded that monthly writing tests improved the capabilities of students as 60% improvements evidenced, as reported by Sharlene, Steve and Leanne (2009).

Hashmi (2018) carried out a study on 120 students (50%) females, involving class-X in 06 Govt Boys Secondary Schools (GBSS) and 06 Govt. Girls Secondary School (GGSS) of district Attock-Punjab, Pakistan. Identified, taking 10 students, from each lane. Students were required to write one page essay, the head teachers and one Research Associate were involved in the presence of class teachers of respective schools. A pre-test and post-test scoring achievement was compared. The post –test was taken after a week’s regular scaffolded instructions towards the targeted parameters of (a) grammatical ability, (b) construct of tense(s) (c) use of vocabulary (d) selection/choice of words and (e) comprehension. The results found indicated that the post-test scores had positive and significant effect on students writing skills, in each parameter. The study concluded with recommendations of continuous guidance of teachers, with extra efforts to the students on monthly English writings for improvements.

Saadiah and Kalavedi (2009) on Error-Analysis Study (ESA) of written English essays, of secondary school students, in Malaysia, comprising 72 students (37-males and 35 females), all students coming from Non-English speaking background, using marking software. The error recorded were classified as (i) Singular plural forms, (ii) Verb tense, (iii) word choice, (iv) perception, (v) subject verb agreement and (vi) word order. The results showed that such error analysis were indicative of language learning problem and must be addressed by teachers.

Ezenandu(2012)conducted a detailed study in Nigeria on the effects of literature circles and scaffolding instructional strategies, on senior secondary school achievements and attitudes to prose literature in English reading and writing, involving 318 students from 08 schools, selected from our local area of Ogum state, Nigeria. The main scaffolding techniques, as stimuli, used were (a) basic literature circles instructional guide (b) literature circles with roles instructional guide, (c) scaffolding circles instructional guide and (d) conventional method of instructional guide. Seven hypothesis were also tested, data collected as analyzed using Co-variance (Multiple classification). It was thus concluded

that scaffolding was the second best instructional method, in improving English, as student centered technique and be implemented in secondary school students.

Different types of Scaffolding: Hassan (2019) conducted a study on the impact of motivational type of scaffolding, on acquisition of writing skills. He examined the impact of scaffolding on thinking skills development .It was evidenced in writing of students at secondary levels in education system, it was analyzed that many of researches had examined the use of scaffolding in getting writing skills, but no one studied the motivational aspect and type of scaffolding as to what were effect on acquisition of writing skills of second language English on students. This study defined the two motivational and demotivational factors of scaffolding with relevance to the Vygotsky's Zone of Proximal Development (ZPD) .The study was about the teacher's instructions and teachers dealing appropriately with development of scaffolding techniques with the learners . The findings from this study evidenced how the teachers and the learners follow one same patterns in understanding the technique of scaffolding used for acquisition of writing skills of learners.

Yulia, Nur and Ekaning(2015)reviewed on the effect of scaffolding techniques reported the study which investigated the effect of scaffolding techniques on students' writing achievement. That was a quasi-experimental research and its design was non-randomized control group. The total participants were 36 students. There were two groups, one was experimental group and the second was control group. The experimental group had 20 students and control group had 16 students. It was concluded that scaffolding techniques significantly improved writing achievement of students.

Addisu (2019)examined the effect of peer scaffolding on students' proficiency in grammar development. The newly developed model (of peer scaffolding) was based on Vygotsky's Scaffolding instructions. For using this model a new program of intervention was developed and implemented. There were two components of that program. One was experimental and second was control group .The sample was of 102 students from First year .The students were from Tillili Preparatory General Secondary School. The experimental and control groups were designed randomly. The design was non-equivalent group, pre- test-post-test quasi experimental design .There were 49 participants from control group and 52 experimental group participants. Two grammar tests were designed. Two groups(experimental and control groups) were given two months scaffolding grammar proficiency activities. The peer scaffolding instructions were given to the

experimental group. The untrained teacher was there with the control group. The control group was taught the same grammar with the old intervention. In the post test phase, the other tests were checked against social validity questionnaires. The findings showed that the Experimental group showed greater improvement in grammar proficiency and also revealed that the intervention was socially valid. So, the study evidenced that peer scaffolding intervention was good tool to improve grammar proficiency development in students.

According to Tseng (2019), high school teacher's thoughts about EFL writing was considered challenging task by students and teachers. The teachers of language played an important role in students' L2 writing development. Therefore, it was necessary to explore the ideas and beliefs about writing instruction as it put influence on practices of class. This study put light on the Repertory Grid Technique (RGT). It explored teacher's three beliefs about EFL writing instruction in a high school at Taiwan. The study had data collection in three phases. First, the students described activities in their class of writing, they were labeled and grouped. The constructs were labels and activity groups were the elements. They were together to form a matrix for the students to rate. The rated matrix went under Exploratory Factor Analysis (EFA). The beliefs of participants were taken as a result of EFA. It was followed-up in-depth sources of their beliefs, interviews. The interview was analyzed. The results evidenced eight beliefs which were related to, reading-writing connection, student efforts, students' background knowledge, structural knowledge and the error awareness, teacher's involvement status of EFL writing and writing as thinking. The sources of belief were five, which were identified. Including, personal writing experience, training from a master's program, personal teaching experience, previous learning experience and in-service training programs. The participants had an opportunity to show on their own teaching by knowing teacher's belief. The study also gave information for teacher in service training programs and training programs to enhancing efficacy and quality of teachers' writing instruction in EFL.

Rizal (2011) cross examined a study on scaffolding talks in English language teaching as per Jerome Bruner introduced scaffolding theory in late 1950s as cognitive psychologist according to him the children's language acquisition was always helped by the parents, when the child first began to speak. Scaffolding was systematic and sequencing of content to be promoted, materials, tasks and teacher's support to learn English and teaching .Scaffolding ,a process in which students were always given support

until they could be able to apply new skills and strategies independently. In short, the teacher's talk was scaffolding talks, in the language teaching. The three kinds of scaffolding were content, functional and process. The content scaffolding were the actual lessons of the instructions, making the way in apprehending scaffolding instructions, could be identified as ,vocabulary, spellings ,the grammar and construction of meaningful sentences.

In addition functional scaffolding helped students to know how to interpret, use and define the text by using tutorials and explanations of representations. Process scaffolding helped students to know the way within the text. Whereas, it was recommended that speaking talks should also be added in scaffolding instructions, supported with tutorials. Hosun, Jessica and Mark(2014)created opportunities for students to show their knowledge about the role of scaffolding in assessment tasks as designed, involving 33 science teachers, 707 samples of students, in 76 assessment based with parameters of (i) encouraging students to draw explanatory models in combinations with written explanations (ii) rubrics, (iii) sentence frames, (iv) check lists and (v)using contextualized phenomenon. The results indicated that these five forms of scaffolding were associated and linked significantly with the quality of student's explanations both by it and scaffolding. It was concluded that scaffolding, as strategic combination, promoted the students across achievement levels, but the scaffolding be of high quality as recommended.

Khan (2016)focused on group work teaching grammar to SSC students, towards improvement in English writing skills, in Dhaka, Bangladesh. The study encompassed four teaching skills namely (i) reading, (ii) writing, (iii) speaking loudly and (iv) grammar. The study involved four sections of 25 students in each (H=100) and out of four sections, two sections were designed as (a) experimental and other two as (b) control groups. The experimental group was provided scaffolded English writing instructions continuously for 3-4 weeks while the control group was on the traditional way of teaching. The data of pre-test and post-test was compared as analyzed and was found that the group subjected to 3-4 weeks scaffolding instructions of English grammar writing significantly improved in the post-test results. It was recommended that such practice be continued in SSC students, across genders for better results.

Hassan (2020)cross examined the teaching of English grammar using scaffolding and collaborative learnings stating it as a continuous process. Students learnt always in different ways. Collaborative approach with student centered learning gave a way to

students to participate in learning process .In that way learning was easy, interesting and enjoyable. Collaborative approach with scaffolding was given on English grammar to the students, at college level, at National University. The approach was presented on three scaffolding lessons. The teaching of lesson plans was incorporated with the learning theory of Constructivism as shown by taking classes, interest, students' reply and feedback. It was observed that the way the teaching had changed more by the use of student's friendly teaching approach. It was also supported by related literature review. The study was proved effective and helpful .It was also recommended for other teachers to applying that learning theory of constructivism in their teaching.

Kanyakorn, Jiraporn and Rattanee korn (2017) investigated the main errors in written English of EFL students of Thailand, evaluating 104 pieces of writing, by 26 students and observed frequently committed errors of mainly (a) grammar, (b) spelling, (c) sentence and (d) vocabulary together with limited knowledge and carelessness. In conclusion, it was suggested that EFL students must be given intensive knowledge of English grammar and vocabulary as well as a feedback from their previous English writing must be taken in to account for further regular instructions towards improvement.

Janneka, Monique and Jos (2010)evaluated on the scaffolding in teacher student interaction, reviewed and summarized findings on the issue for a decade of research with the background of (a) conceptualization, (b) appearances and (c) effectiveness, scrutinized the work high lighting on (i) contingency, (ii) folding and (iii) transfer of responsibility as the three characteristics of scaffolding. Secondly it was summarized that classifications and narrative disciplines were provided in the strategies, distinguishing between means and intentions, lastly the third approach was summarized in various individual researchers 'studies. The overall findings cumulatively indicated that the scaffolding was effective in students writing capabilities suggesting more studies be carried out.

Monique, Janneka, Frans and Beishuizen (2015) stated on the effects of scaffolding in the class room together with student's independent working time in student achievements involving 768 students (aged 12-15 years (53%) of which were women and 30 social studies teachers in European Union (EU) members states, specially the Netherlands found that when contingent supports was provided there was more achievement in students independent tasks, as compared to high contingent support in scaffolded instructions and guidance fostering students achievements.

Scaffolding techniques Among Second language Learners: Veeramuthu (2011) did scaffolding techniques mediated study in the college L-2 students in Journal writing and compared improvement in week-1 to week-5 post-test progress in Veerappan Multimedia University, Malaysia. It was observed that most of the students, were lacking in (i) proper construct of sentences, (ii) making too many grammatical mistakes, as well as (iii) lacking vocabulary. The students involved in the study were provided scaffolding instructions up-to week-5 post test. The results indicated progress, week after week, and in the last weeks final instructions, the students achieved significantly positive improvement. It was concluded that difficulty faced by the targeted students was overcome hence it was recommended to use such scaffolding instructions in English skills of college level as well.

Patricia (2012) worked out on the effects of literature circles and scaffolding instructional strategies, in senior secondary school achievements and attitudes to prose literature in English reading and writing, involving 318 students from 08 schools, selected from local area of Ogun state, Nigeria. The main scaffolding techniques as stimuli used were (a) basic literature circles instructional guide (b) literature circles with roles instructional guide, (c) scaffolding circles instructional guide and (d) conventional method of instructional guide. Seven hypotheses were also tested, data collected, as analyzed using Co-variance and multiple classifications. It was thus concluded that scaffolding was the second best instructional method in improving English, as student centered technique be implemented in secondary school students.

Quality of English teachers and urban-rural gap: Muhammad (2012) carried out a study on “Educational Sector related Rural-Urban gap, in Pakistan and programs to reduce it towards promoting Integrated Development”, comparing rural-urban literacy rates (for the year 1995-96 to 1998-99), with focus on primary and secondary educational status of the period in the study. The main center of study area was Province of Khyber Pakhtun khwa. In findings, it was concluded that 85% of the students lived in rural areas, 45% of the adult population as literate, females were 29% away from males. The Net Enrolment Rate (NER) in far flung rural areas was lowest, as compared to urban cities and towns. The study recommended (i) fiscal reforms and management reforms, (ii) reforms to strengthen the teacher education and (iii) curricular reforms for better results.

Naila, Muhammad and Ashiq(2017)investigated in a study on socio-economic status, school climate and habits of study in secondary school students, in Punjab Province of Pakistan, with the determinants of academic achievements, using school climate

student's questionnaire. The information collected was cross examined in the result gazettes of Board of Intermediate and Secondary Education (BISE). In the light of statistical analysis, it was found that (a) Parent's socio economic status, (b) school climate, (c) study habits had a positive impact on student's achievements. It was thus concluded that enhancing school environment and good study habits improved academic achievement of students.

Muhammad, Mehmood and Muhammad (2014) conducted an assessment study on quality of English Teachers and English Teacher Educators, at Secondary level, in Punjab, Pakistan. It was based on quality assessment questionnaire, a total of 545 perspective teachers and 31 English Teachers Educators for (1) inputs of (a) physical facilities, (b) policies, (c) clarity of objectives, (2) process involved (a) learning environment, (b) attitude of students, (c) access to existing facilities, (3) output (qualities and status of students). The data analysis revealed that quality of English teachers were satisfactory and recommended that teachers must be subject masters, in teaching English to secondary students.

Ayesha and Rabail (2014) carried out a detailed study on the teachers of English in Pakistan, based on survey questionnaire, involving 100 teachers (53 from public schools, 29 community based English medium schools and 18 private English medium schools) taken from various regions of the country (Sindh, Balochistan, Gilgit-Baltistan (GB) and Chitral). The results obtained were subjected to data analysis, which showed that majority of teachers came from the same stream, categorized as above, majority of the teachers had master's degree in other subjects while some did not have proper academic qualification, as English teachers. It was recommended that such teachers needed pre-service and in-service training for teaching English or to go for master's degree in English as a subject. It was also recommended that the hiring practices needed to be rectified for improvement.

Abdur Rehman, Hafiz, Muhammad, Anser and Umer (2013) made efforts to collect survey questionnaire based information on difficulties of students of class X in learning English as a Second Language (ESL), in rural area of Tehsil Sargodha, Punjab Province, Pakistan. The study involved 60 students (50% across gender) from government secondary schools, with the age group of 13-18 years. The data collected was analyzed and the difficulties faced by these rural students showed that 80% of them pointed out that their student's home atmosphere was not peaceful and not helping the learning, 73.33% students opted not to have any supportive attitude from within the family whereas 86.66% student's

choice was that the student's opinions were not given importance by the parents. It was concluded that there were still additional factors affecting student's learning such as environment, friends, neighborhood and print media, as well as, electronic media, affecting student's attitude.

Muhammad and Aanwar (2018) forwarded an empirical analysis of educational inequalities in rural and urban areas of Pakistan, taking the data of Pakistan Survey of Living Measurement (PSLM) for the years 2014-15, comparing the differences in educational inequalities across the four provinces and Islamabad capital territory (ICT), comprising 2,95,310 individuals having age of fifteen years and above, out of which 38.8% were employed and rest unemployed. The data subjected to Gini-Coefficient for the entire population was recorded as 0.417 and also showed considerable educational inequalities which remained high in rural than urban areas, also high in female population as compared to male. It was higher in Balochistan and Sindh, followed by Khyber Pakhtunkhwa and Punjab Province. The situation recorded for the ICT Islamabad showed educational disparity as relatively low. It was recommended that policy makers must provide utmost importance to education, in all regions, across gender, with particular access to education in Balochistan and Sindh Province.

Sara, Rubina and Ayesha (2015) conducted a study on assessing academic under achievement and high achievement, among Pakistani Secondary School Students, involving 1139 students (48.9% boys and 51.1% girls) from 16 randomly selected, 4 cities of Pakistan including Islamabad with special focus on rural-urban (City Sihala, Nalore, Bharakahu and Tarnol), Cantonment and Garrisons (Wah and Kahuta), using Raven's Standard Progressive Matrices (RSPM), screened out on percentile basis. The test was applied on BISE scores, obtained in 9th class examination. The findings revealed that underachievement was highest among boys urban school and lowest among boy's residential schools, which had significant implications in social, economic and cultural context of Pakistani schools.

Mehboob and Razaqat (2020) cross examined the locus of control as teachers neglected attribute towards student's achievement scores in facing diverse socioeconomic status, involving the three stakeholders namely (i) students, (ii) teachers and head teachers, (iii) parents of a total of 1100 respondents, using Cronbach's alpha reliability was found as 0.850 while the regression analysis indicated that teachers locus of control affected 66% with teacher's demographics variables as 84.30% and parental socioeconomic status

had 74.70% effect on student's achieved scores. It was recommended that teachers must be provided in-service training to secondary school teachers on their neglected psychological attributes in the locus of control to see student's achievements. It was also recommended that grants of monthly stipend given to passed 9th class students having 85% marks (and above) in annual examination, focusing their parental socioeconomic status.

As the work of various researchers, reviewed above, from various parts of the country and abroad such as, Patricia (2012) has used scaffolding to improve writing skills of senior school students, Muhammad (2012) from Khyber Pakhtunkhwa Province of Pakistan found that the enrollment was lower in rural areas especially the female students as well as Naila, Muhammad and Ashiq (2017) reporting from Punjab Province of Pakistan, assessing the student's achievements based on socio-economic status of the parents viz-a-viz through BISE examination results and rural urban gap was identified.

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AN INTRODUCTION TO RURAL DEVELOPMENT AND POVERTY REDUCTION APPROACHES IN PAKISTAN: A SHORT COMMUNICATION

Uzma Kanwal¹ Nadia Hafeez² and Muhammad Usman Hafeez³

This research cum review based on an article of a book describes in chapter wise brief introduction of (01 to 09) of the book entitled Rural Dev. And poverty alleviation approaches in Pakistan and technical review of each chapter, incorporating recent information and updated material of academic importance, of the university students, studying at higher level. The chapters include (i) introductory overview and presumable of the book with salient features, content wise with (i) updates on population its growth social welfare and various categories in Pakistan, under the main reference of NPCO (2019) and initiative of women development supported to women empowerment and financial assistance to women through PBM creation of women development centers and involvement in economic activities for self-reliance. Furthermore (iv) Rural Development and Poverty alleviation have been highlighted amidst UN-SDGs mediated slogan of No. poverty to the year 2030 with HDI as documented in WDR reports also including agriculture and livestock oriented economic activities where women take part in economic activities. Further the book comprises (v) in chapter 05 the proposed projects (PC-1) on various aspects by the COs/CBOs/NGOs and getting Financial Assistance and what type of information must be included in the project proposals. Still ahead (vi) the role of COs/CBOs/NGOs has been jotted down with the organization set-up various documents the priorities on which such organization must supported with the skilled/trained man power prepared under TVT and TVET program towered RD and poverty alleviation. Some of the (vii) National and International Organization are included which help assist in RD and poverty alleviation.

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