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EDITORIAL

Alhamdulillah, with the kind blessings of Almighty Allah (SWT), and Darood –o-Salaam on Last of His Prophets, Muhammad ﷺ. The Editorial Board (EB) of pakjls. in its 19th and 20th meeting accorded approval of publishing this 14th volume, No.14, in hand, published in September 2022, as per schedule ,Alhamdulillah.

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.No article is accepted until and unless cleared by referees or peer review.

In this Volume (XIV) No. 14 we received 16 Research articles, out of which 14 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 the cost of publishing (with only 20% distribution on cost basis). While we are available at www.pakjls.org. 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 pakjls 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, entity 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- 2022); (c) Academic Research Index (ARI); (d) Directory of Open Access Scholarly Resourced (ROAD) and (e) Google Scholar on time .
- C. Both the Co-editors Uzma Kanwal and Nadia Hafeez completed their M.Phil Education, in (2022) addition to their M.Ed earlier 2015 of both with their basic degrees of M.Sc (Sociology) and MSCS, the members Editorial board convey congrats both the Co-Editors have thus been entrusted with the additional duties of Research Associates ,in the team of PJKSc, as well as to those EB members who got promotions in their respective institutions/universities are receiving appreciation for still moving ahead.

(Dr. Muhammad Hafeez)
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REASONS BEHIND PRICE HIKE IN FARM GATE PRICE (FGP) OF FRESH MILK –FEASIBILITY BASED STUDY –IN RWP-ISBD TWIN CITIES -2021-22

Muhammad Hafeez

ABSTRACT

This article describes the Average (AV) cost of buffaloes ,cost of transportation ,feed-N-fodder with miscellaneous expenditures for the year 2022,amidst price hike of petroleum products ,affecting farm gate price (fgp),likely and reciprocal increase in commodities and market price hike of sacrificial animals at the eid-ul-Adha days (July-2022), after a calculated analysis and referred ready examples.The article concludes the main reasons of price hike namely (i) price hike in petrol and diesel ,(ii) cost of transportation , (iii) a newly emerging disease namely lumpy skin disease /lumpy disease and (iv) psychological effect of high price of well-nourished ,show animals ,high valued animals at animal market in Eid-ul-Adha days. The article ends with suggestive recommendations.

Key words: increase in price, commodities , livestock , products, fgp-fresh milk

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INTRODUCTION

Efforts are already being made to keep an eye on the prevailing market rates of fresh milk , in most of the big cities and town of the country, especially in the Rawalpindi – Islamabad (Rwp-Isbd) twin cities and acceleration in the price of fresh milk continuously being observed (Muhammad Hafeez and Tabinda Khawaja-2021). As the author is regularly visiting these economical Units of a minimum of 06 dairy buffaloes and making observations on all the aspects of frank and factual positions of the statuses categorized as (i) cost of dairy buffaloes ,(ii) cost of transportations from central Punjab to upstream (iii) cost of sheds ,(iv) cost of utensils as well as shed equipment. Each item of operational expenditure on yearly basis , included (i) feed and fodder , (ii) gawalas’s salary ,(iii) Animal Health Care Services (AHCS) ,(iv) cost of medicines and (v) miscellaneous expenses, as already detailed in the effort by Tabinda Khwaja and Muhammad Hafeez (2018) and others referred ,as above .This Research cum feasibility based article provides the present status of shooting up prices of the fresh milk in Rwp-Isbd twin cities ,amidst recent increase in petrol and diesel in the country.

1. President Livestock Development Foundation (LDF) Regd. Islamabad

MATERIAL AND METHODS

The following material was collected for data analysis and results in this endeavour:-

- i. Market prices of fresh milk from Gawalas for form gate price (fgp) in Rwp-Isbd twin cities
- ii. Milk shops retail prices for the period of the study in Rwp-Isbd twin cities.
- iii. Gawalas' cost of transportation of milk (bikers) for door to door supplies in the study area, in cities and rural areas.
- iv. Average (Av) margins of milk shops (whole-sellers), the gawalas (transportation) and the dairy farms for (fgp), visited.

RESULTS

Table No-01 Expenditure on cost of animals, feeding and miscellaneous items.

A	Cost of Animal /items	Av. Martket rates (Rs)	Cost in PKR (millions)
I	Cost of Buffaloes (with calves*6)	@ Rs 2 lacs each	1.200
ii	Cost of economical shed (available) or rented 40*18sqft	Nil Rent Rs20,000/-PM	Nil 0.24
iii	Cost of transportation Sahiwal→Isbd	@Rs40,000/- per truck	0.040
iv	Cost of utensils(Milk cans +buckets Hand trolley 02+06 one spade	14000/-+18000/- 20,000	0.034
V	Miscellaneous (ropes,chains, pegs coveralls)	20,000/-	20,000 0.020
Subtotal			1.454

B. Cost of feed/ fodder			
	Cost of Animal items	Av. Martket rates (Rs)	Cost in PKRs (millions)
i	Green fodder @Rs480/40 kgs, 360*6 @Rs360 kgs each*365	788400	0.788
ii.	Wheat /Bhoosa @800/-40kg 200*6=1200 @10 kg each *365	438000	0.457
iii	Conc feed @Rs50/-kg*05 250*6=305	457,500	0.457
Subtotal			1.702

C	Gawala Salary @Rs15000/-PM with messing	18000/-	0.180
D	AHC Senior@Rs 15000/-	60,000/-	0.060
E	Drugs+vaccines +disposable +detergents +soaps	40,000+26000	0.040+ .020
f	Miscellaneous Utility bills+rent of shed	1,40,000	0.140
Subtotal			0.460
First year total expenditure with cost of buffaloes (A+B+C+D+E+F)			3.376
G. First year income			
Sale of milk			
i.	Prod=06*11*305=20,130 lit=21,13,650=		2.113
ii.	Sale @Rs10/- lit	Nil	Nil
iii.	Sale of Fym	Nil	nil

Table No -02 Second Year investment (2022)

Cost of Animal items	Av. Market rates (rupees)	Cost in Pkr (millions)
A i. Cost of 6 Buffaloes	Nil	
ii. Cost of transportation	Nil	Nil
iii. Additional cost of B/calves		Nil
B Cost of disposable ropes /chains , spades+ brooms /hand trolley	20,000/-	0.020
C Feed and fodder -green 10% increased for calves -W/Bhosa -con	2376kgs	0.867 0.723 0.457
Subtotal		2.047
D AHC –service		0.060
E Drugs Vaccin		0.40
F Miscellaneous		.160
Sub total		0.260
Second year expenditure(A+B+C+D+E+F)		0.260

Table No.3 Second year Income sale of milk in 2022

a. Production of milk 6x12x305=21960liters			
b.	Sale	(Rs)	Million(Rs)
2.	@Rs103/-lit	22,61,880	2.262
3.	@Rs104/-lit	22,83,840	2.283
4.	@Rs105/-lit	23,05,800	2.305
5.	@Rs106/-lit	23,27,760	2.327
6.	@Rs108/-lit	23,71,680	2.349
7.	@Rs110/-lit	24,15,600	2.415
8.	@Rs112/-lit	24,59,520	2.459
9.	@Rs114/-lit	25,03,440	2.503
10.	@Rs116/-lit	25,47,360	2.547
11.	@Rs118/-lit	25,91,280	2.591
12.	@Rs120/-lit	26,35,200	2.635

Table No.4: 3rd Years Re-investment /Expenditure in 06 buffaloes/
economic dairy unit in Rural Isbd.

Sr	Cost		
A. Dairy animal inventory	-06 adult buffaloes(in available)	Nil	
	-06 baby calves (available)	Nil	
	04+02 males		
	Age-2 years approx.(growing)		
B. Operational Cost	(a) Feed and fodder	0.826	
	(b) Miscellaneous	0.826	
	(10% increase in cost)	0.280	
	Subtotal	1.932	
3rd year income			Millions(Rs)
	Sale of milk @Rs120/-lit Produce:21960-lit		2.635

Table No.3 Cost of Transportation and traders income /Lit:2021 and 2022

Sr	Period	Cost of milk shops /lit	FGP	Cost of delivery(Rs)	Retail
1.	2021 (July-Dec)	05/-	105/-	05/-	115/-
2.	2022 (Jan-May)	06/-	111/-	06/-	116/-
3.	2022 (June-August)	08/-	120/-	08/-	123/-
4.	Projected average (Sep-Dec)	Rs10/	125/-	10/-	145/-

NB. Some of the retailers have increased fresh milk from Rs145/- to 160/- since July 2022 which is totally called unfair.

DRASTIC AFFECT ON PRODUCTION OF MILK AND MILK SUPPLY

With immediate increase in cost of petrol ,diesel and kerosin oil almost all commodities have been increased in the retail market .The food and feed items (already dumped in the stores) have super-fluously been increased without assessment of freshly

arrived stock(an old trend of money makers).

PRICE HIKE IN SACRIFICIAL ANIMALS (both small and large ruminants) IN EID-UL-ADHA DAYS (JULY-2022)

In majority of the bigger and smaller markets of Rwp-Isbd twin cities (Tarnol,Bata chauh,Pir-wadhahai/G-11) as well as smaller-Temporary Pre-Eid markets of (Channi Sher Khan /Rawat/Gujar Khan ,Bhara kahu and Tarlai) it was observed that the prices of sacrificial animals were increased by 25% to 30% in small ruminants (sheep-goat –rams and bucks) whereas 30%-40% increased ,as compared to previous year 2021, Eid-ul Adha days .

The main reason behind the price hike as observed was (i) increase of Rs30-32 per litre in petrol and Rs27-28 /- per litre of diesel in the month of July (effective 20th June -2022 against all traditional norms of the budget –years of the past.

READY EXAMPLE

As per yearly practice ,one truck load of 12 bulls /adult calves (from Layyah to Bhara Kahu ,Islamabad for collective sacrifice (ijtemai Qurbani) the transportation cost per truck used to be Rs22-25000/- one way which was paid Rs55-60,000/- per truck load during July -2022 (first week).

EXAMPLE BY WEIGHT

The apparent bulls (both Dondas and Chogas) by appearance of 5monds ie,200kgs was purchased @ Rs1,70,000/-while the other sacrificial bull (Choga) was purchased @ Rs2,70,000/- with an average body weigh(BWt) of 07monds ie 280kgs, the BWt was confirmed ,after slaughter and distribution of meat with bones. This B.Wt did not include the weight of head + 4 feet + skin and the ingesta (rumen+ intestines +lungs etc) where as the liver +heart +kidneys and spleen were added in the BWt

CONCLUSIONS

The recent price hike is being attributed to :

- (i) Price hike in the petroleum products namely petrol and diesel mainly
- (ii) The second reason is attributed to inflation of Pak.Rupee exegerated rate of price exchange of US Dollar

LUMPY SKIN DISEASE IMPACT

A recently emerged Lumpy skin disease/Lumpy Disease which claimed more than 16000 live cattle, mainly in Sindh Province and spread all over the country (2021-2022) as reported, was also the attributed cause of the lower number of cattle brought to the markets and price

hike in the Eid-ul-Adha days (Livestock Wing -2022 updates)

WEL-FINISHED /SHOW ANIMALS

Another psychological reason of price hike has always been seen of high cost /high farm gate valued / show animals ranging between 07 lacs (0.7millions) rupee and up to 15-20 lacs rupees(1.5-2.00 millions) which the farmers claim to heavy BWt animals and that extra ordinary nutritional feeding (with apples ,Nuts ,Butter ,khoya and some farmers claim to feed dates etc) as appear in the social media channels and /or on You-tube/FaceBook/ Instagram ets(a rare practice).

SUGGESTIVE RECOMMENDATIONS

In the light of above factual situation, of the market scenario ,the following recommendations are made :-

- The farmers be advised to sell animals on-hoof but on BWt prices.
- Livestock advisory services be expanded to Annual Animal Markets (AAM).
- Free Animal Health Care Services (AHCS) be ensured in consultation with local Govt. authorities and the market contractions.
- Price committees be made functional.

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

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The work carried out by the researchers from both at home (Pakistan) and abroad, collected and filtered, very closely related to the topic and objectives of this study, pertaining to last 10-15 years, is presented as summarized below:-

1. Forest trees/Mega trees in Mega Parks

Bruno X. Pinho (2020) conducted study on Critical role and collapse of tropical mega-trees the key global resource. Very large tropical forest trees ('mega-trees') represented an irreplaceable habitat associated with large benefits in terms of biodiversity and ecosystem services a comprehensive overview indicated the importance of tropical mega-trees relative to biodiversity persistence, ecosystem services, and socio-cultural value and described all contemporary threats to mega-trees as a result of the conversion of old-growth forests into human-degraded landscapes exposed to climate change. It was also revealed that, a myriad of taxa, functional groups and ecosystem services directly or indirectly supported by tropical mega-trees, such as highly illuminated crowns for epiphytes large holes and branches sheltering many vertebrate and invertebrate taxa. mega-trees also amplify the resource spectra associated with non-redundant niche space, including thermal buffering and extended vertical microclimates above the forest canopy as well as mega-trees also made the largest contribution to forest productivity, above ground biomass, and timber. However, protecting such resource had been a major challenge due to the natural rarity of mega trees, illegal logging, old-growth forest conversion and climate change argue for productive forest landscapes' as a strategy to protect mega-trees and highlight the connections with Sustainable Development Goals(SDGs) and other global targets strategy poses economic, political, technological and social challenges, as sparing tropical forests still incur high opportunity costs that few stakeholders could realistically afford. Despite these challenges, the future of tropical forests mega-trees and local livelihoods were

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 2. Chairman DAS-AIOU-Isbd
 3. Research Scholar –Bahauddin Zakria University-Bahawalpur

inextricably linked, and productive forest landscapes would bring clear unanticipated benefits for future generations and tropical biodiversity as concluded.

Elena Paoletti (2010) explored with a comprehensive approach on “air quality impact of an urban park using. The Urban Forest Effects (UFORE)” a computer based model designed to access tree allometric, air pollution and meteorological data of urban forest characteristics and various urban forest functions, applied to the main park in the city of Florence, Italy, (Cascine Park), in 1985 and 2004, in order to study how the natural and man-made evolution of the park affected its ability to control air quality. Plant data were for both the years, while climate and pollutant data were for the year 2004 only, in order to remove the variability due to changes in the atmospheric variables. The results showed that the forest growth compensated the losses due to cuttings and damages by extreme climatic events, so that the overall amount of pollutants removed from the air did not change from 1985 to 2004 (72.4-69.0 kg/ha). In contrast, the amount of carbon storing and biogenic volatile organic compound emission decreased over time, because of a reduction in the number of large trees and of isoprene-emitting individuals, but the results were very variable plot by plot. The species were ranked according to their ability of controlling air quality. The data as suggested could be used as a decision tool for establishing cuttings and new plantings in urban planning and the effects on air quality under Mediterranean climate conditions.

Ruixue Liu and Jing Xiao (2021) provided a computer based analysis approach on Factors Affecting Users’ Satisfaction with Urban Parks through Online Comments Data: Evidence from Shenzhen, China. essential to give full consideration to the potential barriers facing urban parks from their better functions and meeting residents’ needs in terms of collective perception and satisfaction study presented the methods of using social media (Dianping) data to investigate the potential factors affecting people’s satisfaction with urban parks. Textual analysis and sentiment analysis made it feasible to identify these factors influencing people’s experience in parks. By measuring emotions towards these factors, a multiple linear regression model helped to explore the relationships between the factors and people’s satisfaction, and among them, determined the key ones. A total of 11,272 comments relating to the 79 case-study sites over nine years of data captured, with an average of 143 comments per park, a standard deviation of 393, and a range from 0 to 2511. The distribution of social media data as highly skewed. The majority of the parks (n = 61) had less than 100 comments, and 13 parks had no comment. Nine parks had

more than 300 comments and six parks (7.6% of the total) had more than 500 comments. The six parks had a total number of 7344 comments, accounting for 65.57% of the total (a) Donghu Park, (b) Honghu Park, (c) Lizhi Park, (d) Lianhuashan Park, (e) Civic Center Park, and (f) Shenzhen Bay Park. The results presented the nine key factors of urban parks that affect the users' satisfaction, in addition to the common factors by previous studies including park size, vegetation, recreation facility, landscape visual effect, maintenance of facilities and plants, with environment cleanliness. A series of contextual factors also significantly influenced people's satisfaction, such as sign system, mosquito and air quality. Among these, sign system has the strongest influence. The results increased the understanding of the human-urban park relationship and identify the characteristics of urban parks that facilitate the degree of satisfaction promotion. The findings might provide the managerial guidelines for planners and decision-makers to optimize people's imperative qualities of urban life.

2. Forestic Importance in Urban Parks

Oimahmad Rahmonov (2020) conducted the study on "Floristic diversity in selected city parks in southern Poland". Ecosystems of city parks as stated were one of the most important refuges of biodiversity in urbanized areas. Recently, naturalists had an increased interest in floristic diversity in regions that had been drastically modified by human activity, particularly in urban spaces. Investigations were conducted at various levels of the biological organization, to protect the environment and to promote floristic diversity. The aim of the study was to present floristic diversity in urban parks. The research was conducted in 10 parks located in 3 cities (Dąbrowa Górnicza, Sosnowiec and Będzin). Where the parks had been formed at different times, on various parent rocks both natural and anthropogenic in origin and had different sizes (the smallest being 6 ha and the largest 67 ha). The common features as was seen the way of use and management. The results of the investigation were confirmed 426 vascular plants belonging to 83 families and 247 genera. The highest number of species belonged to Asteraceae and Poaceae. Grabek Park had the most species rich (288) in comparison to the other parks investigated. Research on urban parks showed important links between floral diversity and biodiversity within highly urbanized areas in city centres and in urban spaces in general. The variety included both native species and alien species, often called 'park species' with a decorative origin. Comparison of all the analysed parks at once in terms of geographical-historical groups of flora ratio using the chi-squared test (χ^2) showed that there were no

statistically significant differences between them (obtained χ^2 -value = 48.18, p -value = 0.084388, critical value $\chi^2_{220.05, df=36} = 50.9985$).

Anders Busse Nielsen (2013) studied that urban areas as hosts for innovative ways conserved and promoted biodiversity. Parks, as one specific type of urban green space, constituted particularly important biodiversity hotspots in the cityscape. The reviewed empirical findings on the species richness in urban parks across all species groups that had been studied. The aim was to assess and discuss the overall species richness of urban parks, its community attributes and drivers. Search and subsequent selection process resulted in 62 researchers work from 25 different countries examined species groups and the findings consistently showed that parks were among the most species rich types of urban green spaces, but also that exotics constituted large shares, especially of plant species. Key ecological theories like (a) the gradient approach and land habitat ecological theory, and (b) fundamental ecological relationships such as the species-area relationship are (valid despite the manipulated ‘nature’ of parks) and the surrounding urban matrix. Most studies surveyed large number of parks and applied ‘multi-scale’ approaches in tests of confounding variables, providing methodological strength. While matrix effects were consistently found to affect species richness negatively, the diversity of habitats and microhabitat heterogeneity contained in urban parks appeared as the most decisive factor for the overall species richness. However, a constraint of research to date was the limitation of individual studies to one or a few species groups, rarely bridging between flora and fauna. Adopting ‘multi-species group’ approaches in future research was recommended as needed to further advance the understanding of the overall biodiversity of urban parks, and its drivers.

The Directorate of Environment (DOE-2020-21) of Capital Development Authority (CDA) Islamabad (2020-2021) indicated in its recent updated report the number of forest trees, park area, jogging track, flowering plants of horticultural importance and recreational facilities in each of the four Mega parks of Islamabad Capital Territory (ICT) namely (a) Rose and Jasmine Garden (RJS)-H-6, (b) Kachnar Park I-8 (KP-I-8) (c) F-9 park and (d) Lake View Park Rawal Dam (LVPRD). The summarized overview of the details indicated total plants of RJS as 2153-trees; 15000 different kinds of Roses; Kachnar Park I-8 total trees=3702; F-9 Park total=13399 trees while the Lakeview Park showed 1345 trees. The total park area documented for the Mega Parks was (a), (b) (c) and (d) as 87, 33, 760 and 170 respectively. The recreational opportunity facility for adults and children included (i) Jogging tracks, (ii) sitting arrangement, (iii) Picnic

areas, (iv) Paved area for walks, (v) Security arrangement, (vi) Aviary of birds, (vii) Canopy arrangement, (viii) cycling track 580 meters and (ix) Separate walking tracks for ladies 1950 meters; with other details of flowering trees/plants. The daily visitors number have been reported as estimated with varied consistency which crossed more than 2000-3000 (Adults plus kids) which have been reported crossing 8000-10,000 on week-ends and holidays and might become double in Eid-Days, National Days/Holidays and in children vacations.

3. Mega Parks toward Tourism and Recreation

Patrícia Duarte (2020) forwarded a comprehensive approach on Flowers and gardens in the context of tourism potential as travel and tourism had been considered one of the world's largest economic sectors, and garden visiting suggested as an important segment (niche) on the tourism industry with the aim to analyze gardens as a great potential for tourism, in their different specificity. For tourism, all kinds of greenspaces could be used as historic, botanical or private gardens, and parks, besides events as garden and flower festival and exhibitions as responsible for attracting many visitors. This type of tourism had been increasing since tourists were eager for new and unique experiences that contributed to the memory and the identity of a nation and gardens allowed this to happen. One of them organized by The National Trust at Germany being a national charity focused on the conservation of buildings and landscapes aimed to preserve spaces, to protect wildlife and heritage. For every two years, a garden festival performed in a different city, the *Bundesgartenshaus* or BUGA, and millions of visitors. Expoflora, the largest flower and ornamental plant exhibition of Latin America, held in Holambra city, Brazil During almost one month, in spring time, visitors have a chance to learn about new varieties and cultivation techniques, besides the contact with Holland culture. In a rural Garden Tour, visitors were looking for an ordinary garden, where there were more than plant arrangements and ornamental vases. The visitor smelled the fragrances, listen bird's song and watercourses, as well as felt the countryside life by cultivating vegetables, tea plants, and orchards, besides being part of the family costumes as a coffee or tea time, as an outcome of the study.

Shafagh Rahnema et al., (2018) conducted a study and explored preferences and emotion perceptions of people in Rashtand Ardabil (Iran) to some ornamental plants, in order to help designing appropriate urban green landscapes. The study also surveyed urban park users in

the two cities (in 2017) to identify and compare the most important factors underpinning the viability of public open spaces from the perspective of users (mental aspect) and the extent to which the factors matched the visual features of the selected spaces (visual aspect). A random sample of 232 individuals was taken from students in Ardabil (119 persons) and Rasht (113 persons). A considerable part of the participants (37.2%) reported a feeling of tranquility when they saw flowers, while 28.8% of the participants reported a feeling of love. Flower-bearing plant species were more appealing to the participants than leafy ornamental plants. Red was the most preferred flower color (52.1%) followed by violet (18.6%) and orange (11.4%) among the ornamental species commonly used in the design of green spaces, while tulip (*Tulipa gesneriana*) (29%), rose (*Rosa hybrida*) (25%), and Easter lily (*Lilium longiflorum*) (19%) were in the first top ranks of preferences, respectively. Coleus (*Solenostemon scutellarioides*) and garden croton (*Codiaeum variegatum*) were also reported among preferred species. The results supported the assumption of similarity in preferences and requirements of citizens of large cities despite great diversity in geography, culture, and ethics, people in large cities exhibit similar emotion perceptions. The study findings also expected to support public authorities and urban planners to effectively design and manage urban green spaces to meet users' needs as suggested.

Semenova et al., (2020) reviewed on Urban parks and their impact on the sustainable development of the tourist area: international experience and prospects of its application in the Kaliningrad region and the Republic of Tatarstan (RT). Nowadays, self-organized travel, in which a tourist without the help of travel agents formed tour package, buying air tickets, booking hotels, transfers and other services, was becoming increasingly popular. All this became possible primarily thanks to the development of Internet services, which have recently become available and easy to use. In addition, the system of electronic payments allowed (to pay for the ordered services in a short time anywhere in the world). It was concluded that the share of independent travel increased every year. The most popular destinations for such independent travel were national capitals and large cities with well-developed infrastructure. According to the latest research, tourists came on average for 3-4 days, stayed in economy class hotels (or rented apartments), ate in authentic medium level establishments. While on holidays, visited certain sights, such as museums, monumental buildings, nature reserves and so on. Much time was also spent walking around the city, when tourists enjoyed visiting and resting in city parks. This study considered the impact of urban parks on tourism, as well as highlighted the main benefits of

developing the urban park environment, in the context of sustainable development of the territory and attracting tourists.

4. Land Scape plants and vision

Shengju Li et al., (2019) Studied the Influence of Seasonal Diversity Deduction of Landscape Plants on Landscape Vision, as Urban garden landscape remain a topic of great concern in the process of modern urban construction belonging to the landscape, (with vitality in the construction process). The plant landscape also appeared as the product of the combination of economy, politics, culture and technology. The cold land plants belonged to the only life-changing and cyclical elements in the garden design process. Using the seasonal changes of the distinctive features to realize the planning and design, which effectively enriched the overall landscape effected seasonal changes of garden plants in cold regions mainly included space and color. The seasonal changes of color included leaves, flowers, fruits and branches, and the spatial characteristics in different periods of plants. In the process of realizing the garden configuration, it was thus important to comprehensively study the seasonal changes of plants, which effectively improved the role of gardens. The study analyzed the influence of seasonal changes of garden plants on the landscape construction of garden space from three aspects of (i) function (ii) season and (iii) beauty. Therefore, the characteristics of seasonal changes of garden plants in cold regions were analyzed, so as to improve the rationality of landscape plant configuration in different seasons, together with to improve the level of garden landscape construction. The number of green plants in the garden was increased, effectively expanded the greening range, and the green effectively relieved the pressure and vision. People enjoyed their mood in the process of viewing green plants. In the garden, not only must be planted green plants, but also planted ornamental flowers and plants, and match them with flowers, to effectively improve the viewing period of the garden landscape. The combination of tones and layered configuration being particularly important way in the plant configuration process. The combination of different colors, leaf colors and heights could effectively enrich the level and color, create a multi-level, image landscape, and met the modern people's viewing requirements for garden landscape as recommended.

Luca Száraz (2014) reviewed on the Impact of Urban Green Spaces on Climate and Air Quality in Cities as every urban landscape being significantly different from any other environment. The urban landscapes having green spaces decreased mainly made of artificial

surfaces (which had unique physical attributes unlike any other landscape surface). The combination of dominant artificial surfaces and decreased vegetation thus created an urban climate which influenced the air quality, outdoor thermal and human comfort. Although, half of the Earth's population live in cities, the importance of urban air quality and climate issues had a high impact on urban planning processes despite the fact that urban weather and climate was essential for human well-being. The main objective with the present study had been to investigate how urban green spaces impact on the air quality and the microclimate in cities. Each section examined an urban climatic process and how the process differed in an urban environment which included vegetation. The final section discusses how urban green spaces could help ease the local consequences of climate change. Thus it was recommended that urban planning for parks be based in green spaces towards air quality for visitors.

5. SDGs/improving quality of life of people

Jessica and Turner-Skoff (2019) conducted study on “The benefits of trees for livable and sustainable communities in an era influenced by humans” to the point that the Earth's systems looked now altered. In addition, as stated, a majority of the world's population lived in cities. To meet the needs of people in a changing world, The United Nations General Assembly (UNGA) created the United Nations Sustainable Development Goals (UN SDG) to improve the quality of life for people. Such broad goals outlined the greatest challenges of time. An effective strategy to assist in meeting the goals remain to plants and protect trees, especially in cities where the majority of people live. This study and presentation served as a critical review of the benefits of trees to promote health and social well-being by removing air pollution, reducing stress, encouraging physical activity, and promoting social ties and community. Children with views of trees were more likely to succeed in schools. Trees also promoted a strong economy and provided numerous resources to the people that need it. While cities were getting hotter, trees could reduce urban temperature in providing habitat and food for animals. Finally, trees were valuable green infrastructure to manage storm water. Money spent on urban forestry had a high return on investment. As navigated a human-dominated era, skilled people were also needed who understood the nuances of the built environment if strategically plan the cities of the future. The overwhelming evidence from the scientific literature and the study suggested that investing in trees meeting the UN SDGs, and ultimately an investment for a better world..

Muhammad Nadeem et al., (2010) reviewed the Impact of parks on human life. Public

parks as these provide opportunities to enrich the quality of life for persons of all ages and abilities. Parks remain the key contributor to the aesthetic and physical quality of the surroundings. In the present study health, social, personal and environmental benefits associated with parks were evaluated. In total 200 respondents belonging to different age, profession, education, income and age group were interviewed an overall 70% of the respondents strongly agreed that parks had potential contribution to improve the health status and psychological wellbeing of the parks visitors and only 7% were uncertain about it. Similarly 83% of the respondents agreed that parks enhanced the beauty of the city, whereas 86% of the respondents showed that plants reduced air pollution by purifying the environment. Data recorded on health benefits showed that 60 % of the visitors feel relaxed and reduce mental stress and tension. Simultaneously 68 % of the visitors agreed that by visiting parks concentration on thinking is increased. Similarly data related to social benefits showed that 52 % of the parks visitors find opportunity to talking with people and improve the living standard. were helpful to establish a relation between community and public parks. It was noted that there were variations in responses among the visitors however the results with respect to gender distribution showed that 92 % of the park visitors were males, while 8% the park visitors were females. In Guttwala park, 85% were males and remaining 15% were females, while in Canal park majority of park visitors were males and female participation was negligible. It was further reported that 58 % of the park visitors were in the age of 15 to 30 years, and 24% were in the age of 31 to 45 years, and 18 % were in the age of above 46 years. In Guttwala park majority of the park visitors i.e. 56 % were in the age of 15 to 30 years, and 25% were in the age of 31 to 45 years, and 19% were in the age of 46 years and above. While in Canal Park major portion of park visitors i.e. 61% were in the age of 15 to 30 years, 23% were in the age of 31 to 45 years and 19% were in the age of 46 years and above .The study also found that 59 % of the visitors interviewed were married while 41 % were single and the economic status specially for income, it appeared that 60% having income of Rs1000- 10,000/month. 55% of respondents liked to spend 1-2 hours in the parks and when reasons for visiting parks were explored, it was found that 32% respondents visited park for walking, while other reasons for visiting were jogging 30 %, children wish 15%, exercise 6% and 10% respondents came for outing purposes as respondents were asked to share their purpose of visit to parks. Results also showed that also they exchanged views with friends and entertainment was the main reason given by people having 32% contribution.

6. Alleviating stress Factors

Monika Czaja et al., (2020) reviewed on the complex issue of “Urban trees stress factor Accumulation and Ecological Service Possibilities”. The ecological role of trees in urban landscapes while considering their growth conditions. Research Highlights were: (i) Plant growth conditions in cities worsening due to high urbanization rates and new stress factors; (ii) Urban trees were capable of alleviating the stress factors as they were exposed to; (iii) The size and vitality of trees related to the ecological services could be provided. The review showed in a clear way, that the phenomenon of human-related environmental degradation, which generates urban tree stress, could be alleviated by the presence of trees. The first section of review concerns were related to urban environment degradation and its influence on trees. Intense urbanization affected the environment of plants, raising the mortality rate of urban trees. The second part deals with the dieback of city trees, its causes and scale. The average life expectancy of urban trees is relatively low and depended on factors such as the specific location, proper care and community involvement, among others. The third part was concerned with the ecological and economic advantages of trees in the city structure. Trees affect citizen safety and health, but also improve the soil and air environment. Finally, presented the drawbacks of tree planting and discuss if they are caused by the tree itself or rather by improper tree management. The latest reports on the complicated state of urban trees, presenting new insights on the complex issue (of trees situated in cities), struggling with stress factors were also included. The stressors have evolved over the decades and emphasized the importance of tree presence in the city structure.

Robert Brown (2015) conducted the study on “Designing urban parks that ameliorate the effects of climate change”, as reported, many inhabitants of cities throughout the world suffer from health problems and discomfort caused by overheating of urban areas, and there appeared compelling evidence that the problems would be exacerbated by global climate change. Most cities not designed to ameliorate the effects although well-known that as possible, especially through evidence-based climate-responsive design of urban open spaces, Urban parks and green spaces had the potential to provide thermally comfortable environments and helped reduce vulnerability to heat stress. However, in order to provide the function, parks must be designed within the context of the prevailing climate and predicted future climates. To analyze the effects of elements that alter microclimate in parks, human energy budget simulations was used, modeled with the outdoor human energy budget, in a range of warm to hot climate zones and

interpreted the results in terms of thermal comfort and health vulnerability. Reduction of solar radiant input with trees had the greatest effect in all test cities as recorded. Reduction in air temperature was the second most important component, and in some climates was nearly as important as incorporating shade. It was then conducted similar modelling using predicted climates for the middle of the century, emphasizing the importance of city-level efforts for park design to assist in minimizing future climate-related urban health risks. The outcome simulations suggested that heat waves in many climates would produce outdoor environments where people would be in extreme danger of heat stress, but that appropriately designed parks could reduce the threat.

7. Urban parks as green buffers/Benefits of Mega parks

Jing Xie (2020) carried out a study on Urban Parks as Green Buffers during the COVID-19 Pandemic as in many parts of the world, concerns about the COVID-19 pandemic and city quarantine policy had led to a general decline in the physical and mental health of residents due to insufficient social interaction. The sample size was 386. Participants could view the study details at the top of the questionnaire; there was no compensation for participating. The research was approved by the Local Ethics Committee of the College of Landscape Architecture, Sichuan Agricultural University, China. The adverse effects could cause potential public health risks. Ways to alleviate the adverse impact of the pandemic and meet social interaction needs must be widely addressed. This survey was conducted from 1–5 April 2020, collected 386 responses from residents of Chengdu, China, during the pandemic based on an online survey questionnaire. The results indicated that most of the residents believed the health status as poor, and did not experience adequate social contact with others. The respondents indicated no difference in mental health, while a few reported differences in their physical health and social interaction levels respondents were more likely the female and younger, with a higher proportion of respondents aged 18–35; a smaller proportion of respondents was older than 75. Also, participants were often better educated, i.e., 57% of people chose “college” and 24.6% “graduate” to describe their education status. Visiting urban parks could significantly improve overall health and assisted in meeting individuals’ social interaction needs. Although residents had reduced the frequency of visits, during the pandemic, even once a week could be beneficial. This paper thus emphasizes the critical role of urban parks during the pandemic period from the perspective of the urban building environment. The conclusion affirmed that urban parks and

large outdoor, open spaces can provided residents with a place for safe outdoor activities and social interaction, in a green environment during a pandemic, as well as area to maintain favorable health and quality of life.

Cecil Konijnendijk Van der Bosch (2013) deliberated on review based “ Benefits of Urban Parks” with special reference to the International Federation of Parks and Recreation Administration (IFPRA) (Ifpra, www.ifpra.org), the unique international organisation that represented parks, recreation, amenity, cultural, leisure and related services. Among the federation’s aims included the advancement of parks, recreation, cultural and leisure services through representation and the dissemination of information; and the promotion of relevant research. During the past few years, IFPRA had refocused its activities more towards urban parks, which led to the establishment of a World Urban Parks Initiative (WUPI) together with a range of other national and international organisations.and strengthened its scientific base by setting up as Science Task Force (STF) at the IFPRA World Congress in Hong Kong (held in Autumn 2010), under the coordination of its Vice President for Science, Cecil Konijnendijk, The Executive Committee of Ifpra decided to assign a review study of urban park benefits coordinated by the STF. In response, a research team of four, representing three different institutions, three different disciplines, and four different nationalities was set up. The research team carried out a systematic review of the scientific evidence for urban park benefits (during most of 2012). The data was registered and analysed for each of the selected publications. Apart from basic information about the publication and its authors, as well as the database(s) in which the publication was found, information was registered on study design, the benefits documented by the paper and the so-called primary end point variables (was measured as an indicator for the benefit). The main relevant results (i.e. as pertaining to the specific benefit in focus) were listed, as was the geographical scope of the study (e.g., study undertaken at the level of one or more parks, one or more cities, countries, etc. In addition registered the number of sites or cases studied. Finally the strength of the evidence was assessed, and information was included about limitations of the studies and possible additional remarks, for future.

8. Park Management

Michelle Talal (2021) deliberated with a comprehensive approach on “Urban park visitor preferences for vegetation”, conducted an on-site qualitative research study as Urban parks provided numerous cultural and ecological benefits, but might not always meet diverse visitor

preferences. It was stated that need for additional on-site research, which had the potential to gauge vegetation preferences in a more authentic and multi-sensory context. The questions asked from the visitors were how does vegetation in urban parks currently meet visitor preferences together with on-site semi-structured interviews with visitors at 15 different parks of three general types (i.e., natural-passive use, recreational-active use, and multi-use parks), using a case study of Portland, Oregon, a mid-sized city in North America, with a temperate climate, transcribed the interviews and coded for themes and patterns of meaning. • Visitors across demographics groups discussed (i) trees, (ii) size, and (iii) diversity/variety as some of the favorite aspects of the vegetation, were important for visitors, particularly for their large size/shade, but vegetation preferences tended to vary across park type and slightly more than half of participants suggested changes. Many recreational-active and multi-use park visitors desired more flowers, color, grass, middle growth, trees, and food-bearing plants, as well as improved placement, while visitors to natural-passive use parks preferred additional invasive/harmful plant removal. • Integrating visitor vegetation preferences into plant selection, layout, and maintenance has the potential to increase ecosystem services of urban parks. The incorporation of colorful, native flowers for visitors could also provide habitat for native species, as concluded.

Ziru Chen (2019) forwarded comprehensive approach on “National Forest Parks in China” based on origin, Evolution, and Sustainable Development, the concept of National Forest Park (NFP) as mainly used in mainland China. Originating in 1982, NFP embodied a “top-down” concept and associated program launched by the Chinese government, aimed at promoting forest-based tourism and economic development under the premise of protecting forest resources. After 30 years of development, NFPs had made great achievements in protecting specific forest resources, promoting forest-based tourists, promoting regional economic development, and popularity worldwide. However, due to the fast pace of NFP expansion, lack of predictable planning and innovative thinking, and ineffective governance, some problems like overexploitation, scenic pollution, monotonous development patterns, and ecological degradation associated with NFP constrained its sustainable development. In order to solve the problems effectively, a holistic review of the status of NFPs in China was needed. To help meet this need, the origin, evolution, and current status of NFPs in China were analyzed. The presented research also included retrospective analyses of challenges and opportunities for NFPs sustainable development in China. Cumulative results showed that from 1982 to 2015 (33 years) the

number of NFPs grew dramatically, and the development occurred in four phases. In addition, NFP development has been unbalanced in regional distribution. When analyzing the evolution of NFPs, the main issues to date included failure to implement Master Plans in practice, unclear supervisory responsibilities, ambiguous classification, unbalanced distribution, destruction of natural resource and ecosystems, insufficient cultural protection, weak awareness of nature education, lack of resource statistics, monotonous planning, and weak marketing. Study findings can contribute to promoting the sustainable future development of NFPs and supported the forest-based tourism industry, as concluded.

Paul (2002). reported on Managing Urban Parks for a “Racially and Ethnically Diverse Clientele”. major planning effort for Chicago’s largest park that provided an opportunity to examine outdoor recreation use patterns and preferences among a racially and ethnically diverse clientele. Results from on-site surveys of 898 park users (217 Black, 210 Latino, 182 Asian, and 289 White) showed that park users shared a core set of interests, preferences, and concerns about the park and its management. But there were also some important differences among and within racial and ethnic groups with respect to park use patterns, participation, and reports of racial discrimination. Implications for management and future research discussed. In the original sampling design, the park was divided into three major zones (south, middle, and north) and 30 subzones (e.g., beach, harbor, play. elds). Interviews were conducted within each zone at various times of the day and days of the week to attain a representative cross-section of park users. During each sampling period, an interviewer made a sweep along a predetermined route through one of the subzones, and at a predetermined interval used a random procedure to solicit interviews from park users. As carried out, the sample was distributed in the following ways: location (54% south, 28% middle, 14% north), time of day (12% 8 A.M.–noon, 40% afternoon– 4 P.M. and, 47% 4–8 P.M.), and day of week (69% weekday, 31% weekend). The sample of 409 users , provided a reasonable estimate of the proportion of different racial and ethnic groups who use the park: 71% White, 12% Black, 11% Latino and 6% Asians.

9. Socio-Ecological approaches

Patria (2019) carried out study on neighborhood Parks and Recreationists as exposure to Ozone: A Comparison of Disadvantaged and Affluent Communities in Los Angeles, California. Urban parks were valued for their benefits to ecological and human systems, likely to increase in importance as climate change effects continued to unfold. However, the ability of parks to

provide those myriad benefits hinges on equitable provision of and access to green spaces and their environmental quality. A social–ecological approach was adopted in the study contrasting two affluent and two disadvantaged communities situated in coastal and inland zones. Twenty-four days of observations distributed across morning and afternoon time blocks were gathered, with observations in each day drawn from a pair of affluent and disadvantaged community parks. Observers noted location, gender, age, ethnicity/race, and level of physical activity of each visitor encountered during four scheduled observation sweeps on each day of field work. In addition, ozone dose exposure was measured through passive monitoring. Ozone dose exposure was calculated using average hourly ozone in ppb multiplied by METS (metabolic expenditures). Dose exposure was significantly higher in the disadvantaged community parks (with majority Latino use). Findings suggested that additional monitoring in disadvantaged communities, especially inland, might be prudent to facilitate community-based information as well as to assess the degree of potential impact over time. Additionally, mitigative strategies placed in urban parks, such as increased tree canopy might helped to reduce the degree of risk and improved community resilience. Future research examining the positive outcomes from physically active use of urban parks might benefit from adopting a nuanced approach in the light of the present findings of the study.

10. Physical activities in Urban Parks

Keith Miyake (2010) forwarded the outcomes of an approach on “Not Just A Walk in The Park” but reported the Methodological Improvements for Determining Environmental Justice Implications of Park Access in New York City for the Promotion of Physical Activity reviewing, builds on previous research that linked an access to parks and open space with increased physical activity, which in turn might reduce the risk for adverse health outcomes related to obesity. Systematic patterns of uneven access to parks might help to explain disparities in these health outcomes across socio demographic populations not fully explained by individual-level risk factors and health behaviors, and therefore access to parks became an environmental justice issue. This study was designed to shed light on the —unpatterned inequities of park distributions identified in previous studies of New York City park access. It uses a combination of network analysis and a Cadastral-Based Expert Dasymetric System (CEDS) to estimate the racial/ethnic composition of populations within a reasonable walking distance of 400m from parks. The distance to the closest park, number of parks within walking

distance, amount of accessible park space, and number of physical activity sites then evaluated across racial/ethnic categories, and compared to the citywide populations using odds ratios. The odds ratios revealed patterns that at first glance appeared to contradict the notion of distributional inequities. However, discussion of the results pointed to the need for reassessing what is meant by access to more thoroughly consider the aspects of parks that were most likely to contribute to physical activity and positive health outcomes.

11. Mega parks and birds diversities

Karen Stagoll (2011) forwarded the findings of the study on Large trees as being keystone structures in urban parks structures in agricultural and forestry production landscapes, but research demonstrating in urban landscapes, it was urgently needed was recognized in policy to ensure the ongoing existence. Studing the role of large native trees for birds in urban parks in Canberra, Australia. It was found that (1) large trees had a consistent, strong, and positive relationship with five measures of bird diversity, and (2) as trees became larger in size, their positive effect on bird diversity increased. Large urban trees remain therefore keystone structures that provided crucial habitat resources for wildlife. Hence, it was vital that the trees be managed appropriately. With evidence based tree preservation policies that recognized biodiversity values, and proactive planning for future large trees. Thus the protection and perpetuation of these important keystone structures could be achieved, as recommended.

Rubén Ortega-Álvarez (2010) reviewed on “What mattered most”? in Relative effect of urban habitat traits and hazards on urban park birds. Through habitat trait changes, urbanization represent a threat to biodiversity. However, such effects depended on the capacity of wildlife to tolerate urban-related hazards and use urban resources. In this study, it was measured that the relative magnitude of the effect that human activity, the presence/ abundance of potential bird predators, urban infrastructure, vegetation characteristics, and the presence/abundance of House Sparrows had on native urban park bird species. The results showed that the most important variables explaining the abundance of the studied bird species were vegetation ones, followed by both urban infrastructure variables and the number of potential bird predators. The results of this study showed that the relative magnitude of the studied set of variables was species-dependent. Thus, proposing generalized park management and planning activities based on the study could be misleading. However, based on the results, it was suggested tree management and planning activities that could enhance native bird species numbers within urban parks: (1) increasing the

abundance of old trees in urban parks; (2) avoiding urban infrastructure components within parks; and (3) carefully choosing shrub species that could attract large number of birds.

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BOOK REVIEW: AN INTRODUCTION TO THE BOOK ENTITLED “THE LIVESTOCK ECONOMICS AND BUSINESS MANAGEMENT IN PAKISTAN”

Uzma Kanwal¹ . Nadia Hafeez² Aiman Ijaz³ and Farrukh Hafeez⁴

This book in hand, entitled “THE LIVESTOCK ECONOMICS AND BUSINESS MANAGEMENT IN PAKISTAN” is in-fact updated version of an earlier endeavor made by the author for students of Livestock Management and Animal Sciences, in the year 2008, entitled “Livestock Economics and Business Management”, an ISBN – Regd. (Annexed) as demanded by most of our ex-students (now in the academia and Administration) and our colleagues in the Universities, Planning and Development (P & D) Division, Government of Pakistan, as well as Veterinary Research Institutions (VRIs), Lahore, Peshawar, Quetta), PRI-Rwp and NVL-Islamabad, and Livestock and Dairy Dev.Deptt (L+DDD) of the Provinces, who demanded an update and, of course, a need of the hour.

This book is splitted into 12-chapters and each chapter comprises with its most reasonably possible subject matter, starting each chapter, as per format, with its importance, touching the constituents, one by one while the contents remaining limited to the real crux of technical and professional approaches, explained in a simplified manner, easily digest-able by the reader(s) mostly the students. Each chapter starts with a very brief overview, as to what a reader is going to get appropriate information and knowledge of the material available and what benefits our reader(s), specially the students needed with the awareness. Still in the first page, of each chapter, there have been narrated objectives of the subject matter, to apprise the reader(s) as to what intended the author, to put forward the information, in a single chapter supported with exercises/self-assessment questions, at the end so presented, to prepare the students for any of their final examination. A brief account of each chapter is elaborated as under:-

Chapter One pertain to the overall introduction of the subject of the book, starting with the importance, the sector as seen with its National growth, population of livestock, share in Agri: GDP, and grasping the issue with data taken from 10-15 years back and compared with recent values of 2017-18, 2018-19 and 2019-20. This chapter highlights livestock as an industry, recent updates, supported with the academic approach of goals of livestock production and its important functions, to apprise the reader the factual position. Yet another aspect of academic importance encompassing the classification of livestock industry which the reader (students) and all concerned must know. Lastly, the chapter is supported, by Exercises/Self-assessment Questions, to prepare them, evaluate themselves developing competence,.

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towards sitting in any final examination .

Chapter Two pertains to the subject of Milk and Meat Business Management in the country. This chapter first of all provides updates of Milk produced figures, for the recent years 2017-18, 2018-19 and 2019-20, with quantum of availability of milk, for human consumption together with milk produced by sheep/goats in the country. The number of Milk Processing Plants collection and transportation will attract investors in the country when milk products and by-products are evidencing the better use of milk (products and by-products). Still in the same chapter Economic aspects such as GDP, GNP and related information is provided. Secondly in this Chapter No.2, Meat-production updates (beef, mutton and poultry meat) are available with economic aspects as well as managing meat business, financial support and Government Intervention have been incorporated. Lastly the chapter ends with Exercise/Self-Assessment Questions for readers/students own evaluation.

Chapter Three provides an overview of credit and loan access to livestock farmers, starting with importance of the subject, various financial institutions awarding credit/loans have been described, namely Banks, SMEs, SMEDA and NRSP-Bank etc supported with procedure of access and a proposed Pass-Book for livestock farmers on the analogy of Agriculture Pass-Books, for getting access to Credit/loans. Still ahead, markets and marketing systems have been shown to get awareness by all stakeholders and specially for new-investors. Lastly the Research and Development (R & D) aspect has also been included for graduate students who can choose areas of Research in this field. The chapter ends, as usual, with Exercises/Self-assessment Questions, for evaluation.

Chapter Four describes macro-economic principles involved in livestock-sub sectors, such as large ruminants (cattle and buff farming), sheep/goat farming, poultry farming and allied products/by-products. Also touching the basic Principles of Stages of Production, Capital management, farm In-puts and Out-puts, Costs and Margins with other related economic principles involved. The chapter ends, as usual, with the Exercise/Self-assessment Questions, for evaluation.

Chapter Five describes, in Part-A, the Housing Requirements for livestock, namely the Building Requirement/Sheds (for live-animals), other infrastructure, office, clinic, stores, a kitchen, pits for disposal of Farm Yard Manure (FYM) and management in the farm. This also includes environmental control, through cost aspect while in Part-B, Markets and Marketing of livestock and related items have been included (needed from time to time). Lastly the chapter is supported, as usual approach, per format of the book, the Exercise/Self-Assessment Questions, to evaluate one's self and getting prepared for any final examination.

Chapter Six is specifically written on livestock by-products, although not given any importance, by a common man but the professional graduates must know this hidden aspect which deals with Bones

and Bone-products, its uses, Hides (from large-animals) and Skins (from small ruminants), as well as, guts (intestines) casing of sheep goats, leather production, and garments, wool and hair, including others. Still neglected items such as blood, trotters (head and feet) animal fat, horns and hoofs, with edible offal's, have also been added. Yet another important aspect, gaining importance, the Value Addition in livestock products and by-products is included. The poultry production needed a separate chapter but it has been included, in here, in a concise manner. The chapter ends with Exercise/Self Assessment Questions.

Chapter Seven deals with the real Economics and Business Management approach, starting with the Feasibility which is a document needed by the loan awarding Institutions (Banks, SMEs, SMEDA, The Agri-credit awarding Organizations and Kamyab Jawan Program), in the country. This feasibility is prepared by competent professionals, properly qualified and developing this document with its constituents. The split ingredients pertain to the Introduction of the farmer/owner, the area profile, the livestock sector update of the country, The plan of work (what is to be done, in the coming 4-5 years), The financial aspect (details of year-wise expenditure and income from the farm), The break-even stage, The financial analysis and installments of paying-back of the loan/credit obtained; lastly the feasibility is supported with proper certification and witnessed by the owner/farmer of this project. The feasibility must be supported with its Annexure, identified (from I through X) namely, CVs of the consultant who prepared this feasibility, NIC of both, the Bank Acct: No, with latest Bank statement, the land documents, the Agri-Pass-Book/Livestock Pass-Book, Revenue Receipts "(aabiana)" of the agri-land possessed by the owner/farmer, collaterals (property documents pledged with bank-authorities as security – until the recovery of the total amount of loan). Lastly the chapter ends with the Exercises/Self-Assessment Questions.

Chapter Eight pertain to investment opportunities in various areas of livestock, as was enquired by new-investors, beginners of livestock farming activities and specially those retiring officers/officials who got hand-sum amounts, as gratuity, and showing interest in investing in this sector. The details of such opportunity, as described, includes general livestock farming, dairy milk collection and supply, although potentials exist and Government intervention in place, one can go for veterinary pharmaceuticals and biological production, by-products business and animal feed preparations. Poultry sector, is wide-open an area, for investing even in small/economical farms (both broilers and layers production), such as egg-business, with value addition in by-products and now-a-days a wide variety of Restaurants, cooked items in the traditional break-fast and lunches/dinners of various items, with good ratio of margins. The chapter ends, as usual, with Exercise/Self-Assessment Questions.

Chapter Nine pertain to livestock trade, its regulation, in the light of indigenous and foreign

imports and exports. The chapter highlights various items of import of importance, such as Live dairy cows (high yielders), for increased production of milk, the proven sire semen of high-quality and fertile embryos. Livestock calf-milk replaces and feed additives with dairy and poultry equipment while exports of meat (beef, mutton and to some extent (surplus poultry meat) and eggs. The chapter also describes the Animal Quarantine (AQ) Act-1979, A.Q. Rules-1981 and the Animal Quarantine Department (AQD) of the line Ministry, regulating and screening consignments of livestock related items , at the time of Imports and Exports (both livestock products and by-products) subjected to International Animal Health Certificate (IAHC), as an International obligation. An introductory touch has also been given to Trade Development Authority of Pakistan (TDAP), supporting trade activities, at National and International level. Lastly, supported with Exercise/Self-Assessment Questions, for evaluating students/readers by themselves, as to how-much information of the chapter could be digested.

Chapter Ten encompasses livestock-allied industries. This aspect of livestock is emerging, as independent industries, such as Hides and Skins processing industry (as more than 725 such units were operational, until recently, mainly in district Kasur and Mureedkay), Leather Industries of Pakistan (spread all over Industrial cities) such as Sialkot, Faisalabad, Karachi, Lahore, Gujrat, Gujranwala, Kasur and Mureedkay. Bones and Bone crushing Units(48 in the country) and Guts and Casings industries 38 in Karachi and 05 in Lahore, claim to be industries. The Pharmaceuticals as well as vaccines and biological production enterprises, have been declared as Veterinary related industries, years ago. The milk processing dairy sector was given the name of Pakistan Dairy Industry while Meat production and processing are the growing sector of Pakistan where only surplus meat is permissible to be exported.

An emerging sector in meat-by-products of human food (prepared food) is gaining attraction in food and added to the dishes in lunches & dinner throughout the country and abroad, is also added to this chapter. Lastly wool and hair processing have been included in the small industries, for woolen fiber, woolen cloth and hair, for rugs making as well as patti-cloth, woolen coats, caps ,gowns, shawls and bags etc. The chapter ends with Exercises/Self-Assessment Questions, as usual.

Chapter Eleven has exclusively been endeavored in Fodder Business, as this area is getting attention of new investors. The constituents of the chapter separately define green fodder, dry fodder (straws of wheat and maize including sugar-cane tops) and pressed bundles of green-dried fodder crops, as well as concentrate (conc.) feed prepared from oil-seed cakes and grains (wheat, maize, millet, oats and rice including wheat bran). The chapter also describes pallet-feed and "Wandas" Preparation. An exclusive effort made has thus been included with various proposed conc. feed formulae and costs worked out, majority of such formulae (with various trade-secrets) are provided in poultry feed. The chapter ends with Exercise/Self-Assessment Question as usual.

Chapter Twelve covers the Animal Health Care Services (AHCS) with its economic and commercial aspects. This long-neglected subject, in private sector but with less importance. For the last two decades, slowly and steadily livestock farmers have realized to appoint full time and not part-time based Veterinary Officers, as well as Veterinary Assistants. This chapter also includes National Institutions meant for animal health coverage, side by side economic importance of major livestock diseases and communicable diseases (Zoonosis) have been included. Also included in this chapter are the vaccines and vaccination programs, in the private sector, the commercial aspect of AHCS, lastly supported with Animal Health Care Schedule (AHCSch) which is advised to be displayed at a prominent place , in the shed/in the clinic/farm office for strict compliance. The chapter ends, as usual, with Exercise/Self-Assessment Questions, for evaluation of grasping the information, in the text.

The annexure of the book include in addition to all references, (82 in number) as bibliography and necessary definitions, other relevant material, as requirement of the book and Glossary. This book is also enlisted in the books published by the author , at the end of the write-up of this Pjls.vol-xiv,No-14,2022.

QUICK SURVEY REPORT OF LDF, UPDATES ON COST OF SACRIFICIAL ANIMALS ,FEED AND FODDER FOR THREE RECENT YEARS IN RWP-ISBD TWIN CITIES

Muhammad Hafeez¹ , Uzma Kanwal² and M.Usman Hafeez³

ABSTRACT

This survey based article pertains to the average (av) costs of live animals brought to Rwp-Isbd twin cities, for sacrificial purposes for the year 2020,2021 and 2022 Eid-ul-Adha days. The article also provides av.costs of (i) green fodder, (ii) concentrate (conc) feed, (iii) hays (wheat bhoosa) on Eid-ul-Adha days. The summarized results indicate that there appeared 12-19% increase in price of large animal /bulls in the year 2021 and 2022 when compared with 2020 av.costs. This study does not include the precious show animals with extra-ordinary nourishment as posed by the owners with their demanded prices. There also appeared an increase in green fodder (10-12%), conc feed (16%-18%) and dry fodder (wheat –bhosa) by 6-7%. The article ends with the conclusions, recommendations and a message to the farmers.

Keywords: Sacrificial animals Eid ul Adha av.prices feed and fodder

Article received : Sept 2022 Article accepted: Oct2022 Article published Dec-2022

INTRODUCTION

As a regular activity of Livestock Development Foundation (LDF) Regd, the team of researchers collect information on sacrificial animals (both cattle male calves /bulls) and small ruminants male sheep (rams and goat (bucks), at the time of Eid-ul-Adha days. This routine annual activity starts a week prior to a day earlier (the day of Hajj) when the market rates drop suddenly, as the livestock traders (owners of specialized arenas /Deras of both cattle and sheep/goat, due to the fact that the owner have to go back to their home towns. Some animals remain still available in these markets on the day of Eid-ul-Adha, even up to 3rd day.

The present write-up is a comprehensive and comparative information on (i) Live – animals, (ii) feed and fodder, (iii) concentrate feed (wandas) and related items for the three study years 2020,2021 and 2022 respectively. Similar information for the years 2011,2015,2019 forwarded by Muhammad . Hafeez (2019), with a supportive study forwarded by Mansoor Ahmad Khan and Muhammad Hafeez(2019) on comparative cost of Production of milk in Dairy Unit in rural Islamabad. The market trends vary with the varying

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degree of finishing the animals produced For sacrificial purposes: In the earlier approach referred to above ,there is a marked difference between Average Demanded Price (ADPs) and Average Sale Prices (ASPs) of such animals, in both large cattle /bulls as well as small ruminants (sheep/rams, goat-bucks).

Bargaining has been observed as being exercised by the end-users), the buying persons to the utmost –effort of reducing the prices while the owners have been observed as reluctant to reduce the ADPs. Sometimes the deal is not finalized for a few thousands.

The Present effort , in hand ,was made with the main missionary objectives and the manifesto of Livestock Development Foundation (LDF),Regd, Isbd to provide updated information to our clientele, the technical personnel ,the academic , the students and farmers at home and abroad.

The social media has also played a positive role in collecting such information on this occasion and the population , at large become aware of such costs of sacrificial animals ,the market trends and average costs of feed and fodder and to become mentally prepared for next such activity.

MATERIAL AND METHODS

The information collected is based on personel observations,quick gallop surveys of three main animal markets of Rwp-Isbd twin cities namely (i) Pir-wadhai market ,(ii) Peshawar Morr I-12/ I-13 market and (iii) Rangr area Market , for the study period

(a) May–June (2020), (b) June (2021) and June–July (2022) respectively .Information was also selectively collected from small feeding markets of the sacrificial animals collect from nearby villages and ‘Deras’, who could not transport their animals to larger markets .These markets include:-

- (i) Channi Sher jan (Rawat) (ii) Bhara Kahu –Isbd
- (iii) Tarnol- kohat Road (iv) Bakra Mandi –Rwp
- (v) IJP-Road-Rwp (vi) Bata Chowk- Hissam
Peshawar,Road-Rwp
- (vii) Taxila –Rwp (viii) Gojar Khan –Lahore Road etc

The data also includes cost of transportation of sacrificial animals (in One ,two or

three) loader van, from the main market to the residences of individuals who purchased the sacrificial animals. As the rates varied which could not be resequenced in either kms of distance or the cost of driver and one attendant (helping in loading and unloading) from the main market to the residents of individual purchasers. This cost of transportation increased /shot up with increase in petrol /diesel prices in July -2022.

LITERATURE REVIEW

Information collected in Eid-ul-Adha days was forwarded in the years (2009), (2010), (2011), (2012), (2015), (2016) and (2019) by various workers at Rwp-Isbd twin cities by Muhammad Hafeez et al (2016), (2019) and also reported in the Pak. Livestock Welfare Organization (PLWD)-(2010) with newspapers reports of Nov-2010, Nov-2011 and Nov-2012.

Similar reports also documented in the text books Livestock Industry –code-782, AIOU-book Series (2008) by the author and data of that time (2011) was also documented in HEC –published book, “Livestock Industry II; Livestock and poultry production in Pakistan” Muhammad Hafeez (2011). Hence with the passage of time, prices of such animals are continuously towards increase due to following four main reasons .

- (a) Increase in population growth rate of the country
- (b) Continuous consumption of meat (both beef and mutton in commercial restaurants /food shops .
- (c) Export of halal meat cold chains /(both beef and mutton) to various brotherly countries.
- (d) Commercialization of the Livestock farming in the country.

RESULTS AND DISCUSSION:

RESULTS:

1. There had been an average increase by 12-19% in live sacrificial animals of (i) Dondas (two teeth), (ii) chogas (four teeth) and (iii) chagas-(six teeth), in the reported year of 2021 and 2022, when compared with the reported data of the year 2020, as can be seen in table No.01

Table 01 showing comparative average Sale Prices (ASP) of three categories of Sacrificial male cattle (bulls) in Rwp-Isbd ,Eid-ul Adha Markets

Type of animal	Av. Bwt (kgs)	ASP(Rs) 2020	ASP(Rs) Rs 2021	ASP(Rs) 2022	Percentage
Dondas (two Teeth)	100-150	95000-110000	110000-120000	130000-140000	07-08%
Chogas (Four teeth male)	150-180	1,20,000-1,30,000	135000-170000	1,40000-180000	14-15%
Chagas (six teeth male)	180-200	140000-160000	200000	220000-2,50000	15-18%
Chagas (heavier)	200-250	210000-220000	250000	270000-290000	8%-9%

ASP-Average Sale Price ,AV(average),Rs (rupees),kgs (Kilogram) ,Bwf
 Source –LDF-Quick Survey (3-4 days prior to Eid-ul-Adha)

2. Simultaneously there appeared increase in the rates of small ruminants (sheep-rams and goat-bucks, in the year 2021 and 2022 to the extent of 16-19% on an average when compared with the reported prices of the 2020,as appeared in table No. 02

Table No.2 showing Comparative Average Sale Price (ASPs) of small ruminants (sheep/goat) in Rwp-Isbd twin cities at the time of Eid-ul-Adha days for their consecutive years

Type of animal	Av. Bwt (kgs)	ASP(Rs) 2020	ASP(Rs) 2021	ASP(Rs) 2022	Percentage
Goat Bucks	20-25	20000-22000	24000	25000	11%
Goat Bucks	25-30	25000-30000	30000	35000	13%
Goat Bucks	30-35	25000-35000	35000	38000	16%
Goat Bucks	Up to 40 kgs	45000-50000	48000	55000	3%
Age 1 1/25					
Sheep/Ram	20-25	24000-26000	28000	30000	38%
Sheep/Ram	25-30	30000-35000	38000	40000	8%
Sheep/Ram	30-35	36000-38000	40000	42000	9-11%
Sheep/Ram	40 kgs	45000-50000	52000	55000	14.5%
Up to 1 - 4/25year					

3. Green fodder and hays (wheat ,straw and Bhosa) was also recorded with an increased cost of 6-7%as well as wheat straw to the tune of 15% while bhean bram (choker) was recorded increased by 10-12% in the reported years of 2021 and 2022 when compared ,with the cost of 40kgs of 2020 respectively , as detailed in the table No.03

Table No.03 showing green fodder and wheat straw rates on the days of Eid-ul-Adha days in Rwp-Isbd markets for three recent years

fodder	2020 (Rs)	2021 (Rs)	2022 (Rs)	Percent Increase +
Green Fodder chopped 40 kgs	400/-	460/-	480/-	+20%
Wheat Bhoosa 40kgs	800/-	840/-	860/-	+15%
Wheat bran ,(choker) 40kgs	840/-	850/-	900/-	+6-7%

4. Concentrated feed such as (i) cottonseed cake , (ii) sarson oil seed cake and (iii)concentrate feed (wandas) also was recorded increase by 18,16 and 16 % respectively when compared with the cost of 2020,as detailed in the table No.4, respectively.

5.

Table No.4 showing rates of conc.seed

Feed item	Qty (kgs)	Years 2020	Year 2021	Year 2022	percentage increase+
Cottn seed cake	40	3200	3500	3800	18%
Sarson oil seed cake (khal ,sarson)	40	3000	3200	3500	16%
Corn feed Wandas	40	2400	2600	2000	16%
Dried Bread (roti)	40	800	850	900	12.5%

The dried bread (roti) which is being provided as a cheaper source of conc;feed was also not an exception and was recorded with a minimum of 12% increase

DISCUSSION

Livestock farming has given us a commercial trend in production of live animals (for beef in large cattle and mutton foe small animal).Feeding of such animals had been and will remain the focal point to be targeted and the so called finding a ‘Balanced but economical ratio/feed formulation’ to get better results .

In areas where green fodder availability is easier and cheapest the prices of live –animals is quite cheaper ,as compared to big city –market .The additional cost of transportation has also been a supportive factor in price hike .

MESSAGE FOR FARMERS:

Keeping in view the cost of live animals ,feed and fodder, livestock producers /farmers get encouraged to keep-on this sacred activity ,for our country men and also helping in bringing healthy and disease free animals for sacrificial purpose, each year.

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PRICE HIKE IN ANIMAL AND POULTRY FEED INGREDIENTS IN LOCAL MARKETS OF RWP-ISBD TWIN CITIES PAKISTAN ;AMIDST PETROLEUM PRICE INCREASE (MAXIMUM TO SEPT-2022)

Uzma Kanwal¹ , Muhammad Salman Hafeez² and Tabinda Khwaja

ABSTRACT

This article describes the price hike of animal/poultry feed ingredients in Rwp-Isbd twin –cities. In the months May –June –July –August and September (2022).The shooting up of prices were advocated to the rupee devaluation as compared to US dollars and prices of petroleum products (petrol, diesel etc). The price hike of (i) grains (wheat ,corn ,maize and rice ,(1/4 broken),(ii) the roughages (wheat bran ,dried fodder (barseem) the corn cobs crushed and sugar cane pith) and (iii) bones crush with (iv) miscellaneous as well as (v) will seed cakes were also recorded increase from 19%-33.3 average (with the range of minimum (min) as 12.5% and maximum(max) as 40% .The cost of feed formulations ,accordingly, were also increased such as poultry feed @Rs120/-kg in Sept as compared to Rs90/- in May of the reported year (2022).The article ends with the conclusion and recommendations with message to the farmers. When this article was being finalized ,there were speculations in increase of feed ingredients to the tune of further 3-5 % as the food items in utility stores and other grocery stores had already increased with cost of necessary items of daily use .

Key words : Animal feed/Poultry feed , ingredients, price like , Rwp-Isbd twin cities , markets ,Pakistan

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INTRODUCTION

No doubt, food and feed ingredients , in Agricultural countries , like Pakistan are towards slow and steady increase for the last 3-4 decades and has directly increased the prices of live animals and poultry birds which never declined .Although there had been a dangerous fluctuation in US Dollar Versus Pak. Rupee (PKRs) in a few months of May to Sept 2022,as evidenced USD flew-up From Rs178/-in March to Rs 236-237 in Sept -2022 which threatened the petroleum Products specially the Petrol and Diesel increasing the transportation cost of various commodities : livestock (live animals –cattle –buffaloes sheep/goats and poultry) was not an exception and the price hike was attributed to two super-fluous reasoning namely (a)USD-Vs-PKR crisis and (b) increase in petroleum product prices especially the petrol and diesel in the country , affecting deliberately , the retail prices of animal and poultry feed have witnessed non stopping

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sustained retails .

Not referring to international oil crisis by the oil producing and exporting countries (OPEC) in recent months amidst USD-Vs-PKR and Russian Armenian war ,as well as local political crisis, the routine opportunist have taken the stances of reasoning and yellow journalism for seeking fake popularity .

As reported by the Pakistan statistical Bureau (PSB) according to fortnightly –updates, ample quantities of food items are available in the country (PBS July –August 2022) although exports are being awaited for opening of letter of intent /letter of contracts (LCs) by the ministry of Commerce, Gop, Simply for want of fluctuations of USD-Vs-PKR.(PSB-August –Sept-2022).

The sugar producers and exporters Association of Pakistan (PSPEA) have announced the stocks of six millions tons (6.00 million tons) exportable sugar but local prices never came down.

The recent torrential rains of two spells of monsoon of the year in July and August (2022) have resulted in huge –floods ,ever experienced and devastated many thousand villages evidences a dent of 0.7n millions (seven lacs plus) cattle and buffaloes , specially in Southern Punjab , Balochistan and Sindh Province making 1.3 million (13 lacs plus) people homeless. As well as many thousand hectors of Agri-land were under the water and mud of floods .Damaging millions of worth crops , fruits and vegetables (NDMA-August 2022) .This disaster has also affected the food item prices as well as other feed –ingredients of livestock and poultry.

This effort in hand provides updated information on animal feed ingredients , survived in Rawalpindi –Islamabad (Rwp-Isbd) twin cities local markets for the period May—Sept-2022 with av increase in percentile with economical feed formulations and costs worked out ,with a comparison of our earlier effort of previous years(2019-2020)

MATERIAL AND METHODS

The following information was collected and incorporated for data analysis , in the study and preparing this article:---

1. Prevailing market rates of /Rwp-/Isbd ,of animal feed ingredients.
2. Market visits in July (Eid-ul-Adha days)for market rates.
3. Data collected for the months of May-June ,July ,August and September -2022, for animal feed ingredients(1-18 items)

RESULTS AND DISCUSSION

RESULTS

The data collected for (a) grains ,(b) roughage, (c) oil seed cakes , (d) dried fodder ,(e) crushed bones , (f) sugar cane pith and sugar beet pulp (bagasse), (g) molasses, and other feed items ,as presented in

the table No-01, there has been an increase of 19-24% of prices on an av:in the month of Sep,as compared to May –prices(2022).

Table No.01 Comparative feed ingredient prices of local markets in Rwp-Isbd twin cities for 2022(May-June –Sept-2022

Sno	Feed ingredients	Rates (Rs) 40 Kgs (AV)					
		May	June	July	August	Sept	Increase %
(a) Grains							
1	Wheat crushed	2700/-	2800/-	2800/-	3000/-	3800/-	45.45/-
2	Maize seed	2400/-	2600/-	2800/-	3000/-	3600/-	50.00%
3	Rice broken ¼	3700/-	3900/-	4000/-	4200/-	4600/-	30%
4	Grams crushed	9000/-	9500/-	10000/-	11000/-	12000/-	50%
(b) Dried fodder hays							
1	Wheat straw	840/-	850/-	860/-	880/-	900/-	17.14
2	Wheat bran	1800/-	1850/-	1700/-	2000/-	2400/-	37.50%
3	Green fodder	600/-	650/-	700/-	750/-	800/-	60%
4	Dried barseen	300/-	350/-	400/-	650/-	850/-	33.33%
5	Dried maize seeds	400/-	410/-	425/-	450/-	470/-	20%
6	Corn cob crushed	400/-	425/-	450/-	470/-	480/-	20%
(c) Other conc:feed items							
1	Bones crushed	1200/-	1250/-	1300/-	1350/-	1600/-	33.33%
2	Dried bread (roti)	1600/-	1650/-	1680/-	1690/-	1800/-	12.50%
3	Sugar cane bith	800/-	850/-	900/-	950/-	1000/-	25%
4	Sugar beed pulp	500/-	500/-	600/-	700/-	750/-	30%
(d) Chemicals /salts							
1	Dicalcium pahosphate (Dcp)	6000/-	6500/-	7000/-	7500/-	8000/-	33.33%
2	Sodium chloride (common salt)	600/-	620/-	630/-	640/-	650/-	8.33%
(e) Sugar /glucose							
1	Molasses	3600/-	4000/-	4500/-	4800/-	5000/-	38.88%

Table No.2 Economical feed formulation for sheep and goats with recent market rates (Sept-2022)

Ration No 1			Ration No 2		
Ingredients	Qty (kgs)	Price(Rs)	Ingredients	Qty (kgs)	Price(Rs)
1.wheat /crushed	25	2500/-	1..sarson oil	20	2750/-
2. maize cobs	25	300/-	2.maize crushed	20	1800/-
3.dried fodder	28	560/-	3.wheat brawn	25	1200/-
4.molasses	10	1200/-	4.bones crushed	01	40/-
5.mineral mixture	01	350/-	5.maize cobs	20	240/-
6.Sodium chloride	01	20/-	6.Dried barseen	05	100/-
7.Torea oil caba	10	1300/-	7.Molasses	08	960/-
			8.common salt	01	20/-
Total	100	6230	Total	100	7090
Price per kgs(Rs)	-----	62.30	Price per kgs(Rs)	-----	70.90

Table No.3 Economical feed formulation for Sheep and goats with moderate gram diet Rwp-Isbd market rates Sept-2022

Ration No 3			Ration No 4		
Ingredients	Qty(kgs)	Price(Rs)	Ingredients	Qty(kgs)	Price(Rs)
1 .Gram crushed	10	3000/-	1..Wheat crushed or maize crushed	40	3800/-
2. Dried fodder (barseen)	30	600/-	2.torea oil cake	10	1300/-
3.Torea oil cake	10	1300/-	3.wheat bran	25	100/-
4.Mineral mix	02	700/-	4.dried fodder barseen	23	460/-
5.Maize cobs	28	336/-	5.min/mix	100	700/-
6.Wheat bran	20	1200/-			
Total	100	7136/-	Total	100	7760
Price per kgs	----	71.36	Price per kgs	---	77.60

. Two more items are added in the feed mills

(A) Meat meal= 02-03 kgs in 50kgs Bag

(B) Fish meal= 01-02 kgs in 50 kgs bag

- the cost of one kg meat meal was recorded as Rs1200/-1300/-per kgs.On September-2022(dried mesh)

- The cost of one kgs fish meal was recorded as Rs1400/- per Kgs(dried-mesh).

Table No.4 Retail market rates of commercial Poultry feeds (average) in recent month 2022), Rwp-Isbd twin cities

Feed type	MONTHS PRICE PER KGS					
	May	June	July	August	Sept	Oct
1.chick starter Mesh -01	100/-	100/-	105/-	110/-	120/-	120/-
2.Mesh -02	102/-	103/-	106/-	110/-	120/-	120/-
3.Mesh-03	105/-	106/-	107/-	115/-	118/-	122/-
4.Mesh-04	106/-	108/-	109/-	112/-	118/-	122/-
5.Mesh-05	106/-	108/-	109/-	112/-	118/-	122/-
6.Mesh-06	107/-	110/-	112/-	115/-	120/-	122/-
	Layers					
1-6 Mesh as for Booiler	107/-	110/-	115/-	118/-	120/-	123/-
7-10 grower mesh	107/-	108/-	110/-	119/-	120/-	124/-
10-20 grower /layer mesh	108/-	109/-	110/-	120/-	122/-	124/-
20-30 grower /layer mesh	108/-	109/-	110/-	120/-	122/-	124/-
30-40 growe/ Layer mesh	108/-	109/-	110/-	120/-	122/-	124/-
First year	108/-	109/-	110/-	120/-	122/-	124/-
Second year	108/-	109/-	110/-	120/-	122/-	124/-
Jan 2023 on wards	108/-	109/-	110/-	120/-	122/-	124/-
(Projected) 03-05% increase as surveyed ,this will depend on the new grain prices						

No.05 Concentrate food formulation (home made) for poultry birds (chiks ,brilors and layers)based on raw ingredients, sept-Oct-2022 prices

Ration No 1			Ration No 2		
Grains crushed	Qty.kg	Price(Rs)	Grains	Qty.kgs	Price (Rs)
1.Wheat /Maize	20	2000/-	1.Wheat /Maize	18	1800/-
2. Rice broken (¼)	15	1725/-	2. Rice broken (¼)	14	1840/-
3.Wheat bran	28	1800/-	3.Wheat bran	26	1560/-
4.Dried green fodder	20	400/-	4.Dried green fodder	20	400/-
5.Corn /Maize cobs crushed	2811	132/-	5.Corn /Maize cobs crushed	16	192/-
6.bones crushed	02	80/-	6.bones crushed	02	80/-
7.Mollasses	03	450/-	Mollasses	03	450/-
8. common salt (iodized)	01	20/-	8. common salt (iodized)	01	20/-
Total	100	6607	Total	100	6342
Price per kgs(Rs)	-----	66.07	Price per kgs(Rs)		63.42

Based on the av retail prices of animal feed ingredients feed formulation was reworked out (table-04and 05) on the analogy of our previous effort made in 2019-2020.Table No.06 and 04 while economical rations for sheep and goats recorded in the year 2019-20 vide tables No.08and 09,respectively.

To summarize the inferences drawn from the comparison of previous rations for poultry ,sheep and goats, the prices per kg in Sept-2022 have been increased from Rs49-50(2019-20) to Rs 66.66 to Rs 63.77 per kgs showing an increase of 22-26%as home made .The retail of poultry feed per kg was recorded as Rs 120/-in Sept-2022 as presented in the table No.04.

DISCUSSION

Since many years ,say w.e.f 1966-67, the start of animal feeds ,specially poultry feed has shown an increasing trend and never stopped ,never dropped with a lot of reasons ,but that was experienced not more than 02-03%on annual basis. For the last 4-5 decades only two big reasons of price hike has been witnessed namely (i) increasing number of poultry farms in the country and (ii) increasing cost of feed ingredients used in the feed .

Rural poultry raising has also witnessed increased cost of feed ingredients and has directly ,affected the price of poultry birds ,poultry meat (both rural and commercial) as well as the table-eggs and hatching eggs as no exception .

Poultry Industry is thus flourishing amidst feed crisis ,transportation and the new attribution to electricity bills.

Farmers community are the only entity who need every appreciation who are dwelling with this production work of poultry birds poultry meat and eggs for our people and some experts.

CONCLUSIONS

The following conclusions are reached out :-

- i. Feed ingredients almost all kinds have been increased in Sept when compared with May ,this year to the tune of 19-24%
- ii. Grains ,dry fodder and oil seed cakes (khal) have also shown increased by 30-33% in recent months (May –Sept-2022)
- iii. The retail prices of crushed bones ,sugar cane pith and sugar beet baggassehas also been witnessed as increased by 27-30% in recent month .
- iv. Home made poultry feed , although moderately a balanced diet /Ration has also shown increasing trend to the time of 24-33.33%,when compared the sept-2022 prices to that of 2019-2020 prices.
- v. Minerals mixtures ,DCP, Molasses and even common salt has also shown an increasing trend .

RECOMMENDATIONS

The following two main two recommendations are made for all the stake holders ,specially for whole sellers and retailers of feed ingredients :-

- i. When reasoning and advocating increase in feed ingredients prices, self made increases ,be avoided .
- ii. Although prices transportation (due to petroleum products specially petrol and diesel) and electricity and raw material , attention must be made to the end users of products , the common man .

MESSAGE TO LIVESTOCK /POULTRY FARMERS

The following message already advocated to livestock /poultry farmers is repeated as under:-

- i. Farming community keep their mission sustainable as a sacred duty of producing livestock and poultry for our country by men and some exports .
- ii. Since Pakistani society is a consumer –one, animal protein, are lavishly being utilized in our kitchen and food restaurants.

- iii. The message given in our text books ,training manuals and symposia /seminars /conferences that farmers must go for purchasing food ingredients on whole sale prices to get better margins .

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THE ECONOMIC IMPACT OF COST OF TRANSPORTATION AND ELECTRICITY ON COMMON FOOD ITEMS AND ANIMAL FEED INGREDIENTS, IN RURAL ISLAMABAD

Muhammad Hafeez¹ and Uzma Kanwal²

ABSTRACT

This research based article describes the drastic economic impact of cost of transportation, electricity bills (specially the fuel adjustment change and other GOP levies/taxes etc) amidst Pak Rupee (PKR) inflation (vs) US Dollars (USD) shooting up in the study months of May, June, July, August, September and October -2022. Which directly affected the price of food items of daily use and feed ingredients for livestock feed. Briefly when the fuel prices increased by 17.77%, 25-55%, 27.77%, 27.77%, 24.14%, and 22.47%, 26.40%, 28.08%, 26.96%, 24.15% and 23.03% in the months of May – Oct(2022) respectively as compared to April Prices as well as USD was also increased in value vs PKR 8.88, 19.44, 22.33, 24.44, and 25% in the study months of May-Oct of 2022 as compared to April. This resulted in the cost of feed and fodder to the tune of 26.25%. The article ends with solid policy recommendations.

Keyword: Economic impact, Transportation cost, common food ingredients, rural Isbd.

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INTRODUCTION

As a result of immediate price hike of various commodities of house held in the recent months starting May-2022, a task was entrusted to the research team of Livestock Development Foundation (LDF) Regd to keep an eye on the market rates of Livestock Products specially fresh milk amidst immediate price hike of petroleum products (mainly petrol and diesel), as well as the Pak Rupee (PKR) devaluation as compared to US Dollar (USD), together with increasing electricity bills (especially) the Fuel Adjustment Price (FAP) as advocated by the dairy farmers a reason for increase of fresh milk prices. The task also included the study of local market rates (as increased) for feed ingredients of animal feed which was recorded averaged for Rawalpindi-Islamabad (Rwp-Isbd) Twin cities, specially in the rural markets, with special reference to Bhara Kahu, ICT, Rural Islamabad.

Data was collected for the study months April, May, June, July, August, September and October 2022 of various items namely (a) animal feed ingredients, (b) Pak Rupee (PKR) inflationary devaluation against U.S Dollars (USD) and (c) electricity bills increase (specially the (i) per unit price, (ii) Fuel Adjustment Price (FAP) and GOP taxes with (d) Fuel price increase(s) (specially petrol and diesel) which directly affected the price hike of food items and animal feed, resulting in the increase of prices of fresh milk.

Most of the data has already been reflected in the Research article No-128 of this Vol-xiv, No 14 of PJLSC 2022, endeavoured by Tabinda Khwaja et al for the study months of May-to-

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Sept-2022.

This research based article not only clarifies some of the exorbitant and money making tactics of retailer of common feed ingredients but when the fuel prices were reduced by the govt., as well as Fuel Adjustment price in the electricity bills was sufficiently decreased, the retailer did not low down the prices of these commodities of common use specially (the feed ingredients) and the market rates of fresh milk (this jumped from Rs140/- in May to Rs 145/-, June Rs150/-, in July –August and Rs 160/- in Sept-Oct-2022 and these rates are not decreasing at all..

Food inspectors, price control committees and area Magistrates /Asstt: city commissioners are dealing on the issue ,Raids and quick inspections are under way ,fines are being levied and price hiker ,milk sellers in Karachi and elsewhere (News reports) Common man ,the ladies and children are the direct affectees of fresh milk price hike (as the stakeholder) .

As the country is facing devastating floods as a result of monsoon rains and climate change (melting of glaciers in uphill Northern areas of Gilgit Baltistan (G.B) ,but the retailers fresh milk sellers are not decreasing the price.

MATERIAL AND METHODS

1. Data was collected for the months of May ,June ,August Sept and Oct-2022 on the following items:-
 - (a) Retail market rates of 20 (twenty) items used in animal feeds /poultry feed.
 - (b) Electricity bills of one rural areas house in bhara kahu for the study period ,Specially for fuel adjustment , Gop levis ,per unit price and actual payable bills .
 - (c) The USD Vs PKR (rates) for the study period.
 - (d) Packaged milk prices, over the study period.
 - (e) Simple statistical approach of averages Σx and x with SE and percentile increases) and decreases (if any) were recorded.
 - (f) The data has been reflected in tabulated form in the result section.

RESULT AND LITTLE DISCUSSION

After having completed the data , collected analysed and inferences drawn ,the following results have been reached at :-

Table No.1-Increase in Prices of Petroleum (Rs) in the year 2022(May-Oct-2022) in Rwp-Isbd, Rural area.

Petroleum Products	Rates in rural Isbd (Rs0 of various months)						
	April	May	June	July	August	Sep	Oct
Petrol Rs/Litr	180	212	226	230	230	224	220
% increase of April	-	7.77	25.55	27.77	27.77	24.14	22.22
Diesel	178	218	225	228	226	221	219
% increase of as April	-	2247	26.40	28.08	26.96	24.15	23.03

Table No.02 Increase in one Electricity Rates (ER) and Common Electricity Bills (E-Bills), in RWP-Isbd Rural Areas (2022).

Petroleum Products	Rates in rural Isbd (Rs0 of various months)					
	May	June	July	August	Sep	Oct
Unit Price	429					
Actual E-bills	6887.67	7208.77	8256.20	10429.74	9384	
Adjustment rate	559.26	585.57	3390.82	4443.50	2119.63	
FC surcharge	184.47	193.07	209.84	191.78	163.83	
Other taxes on Bills	1426	4490	2313	2882	2260	
Total payable	9610	11680	15709	19632	15352	
Total cost per unit	22.40	22.40	26.01	44.017	40.29	

Table No.3-Additional Levis (TF+Adi+FCSr+TRSr+GST) on Utilized Units of Electricity on a bill in Rural Islamabad2022 (May-Oct-2022)

	May	June	July	Aug	Sep	oct
E.units Based	429	449	488	446	381	321
Cost of Elects	688.67	7208.77	8256.20	4443.84	9384.03	8079.57
Fuel Price Adj.(FPA)	559.26	585.39	33390.82	4443.84	2119.63	85.54
F.C Surcharge	184.47	193.07	209.84	191.78	163.83	138.03
T.R Surcharge	552.12	577.86	1539.31	1684.19	1424.84	554.77
	8183.52	8565.03	13396.17	16749.60	13092.33	8877.91
T.V	35/-	35/-	35/-	35/-	35/-	35/-
GST	1296	1356.42	1701-0	2092-00	1865-00	1495-00
GST on FPA	95-00	99.42	577-00	755-00	360-00	15-00
GOP Levies	1426	1490.84	2313	2882	2260	1545
Total Fuel Adj.(TFA)	654-00	684-00	3968-00	5199-00	2480-00	101-00
Net payable	9610	11680	15709	19632	15352	10,423
Net Amount per unit	22.40	26.01	32.19	44.01	40.29	32.47

Source IESCO-Bhara Kahu —One Electric Bill

Table No.04 Shooting up USD Dollar (USD) on an average to Pak Rupee (PKR) in the recent months -2022

	Months under Study						
	April	May	June	July	August	Sept	Oct
USD	-	01	01	01	01	01	01
PKR market and bank rates	178	190	216	225	227	226	228
Increase (inflation) as of May-2022	178	14%	18.88	29.44	32.33	34.44	35

Source : Daily News channel Reports and Print Media
= Both Banks and open market (averaged)

Table No.5 Increase in feed and fodder prices of Markets rates in the study months-2022

Feed ingredient	Rates (Rs) 40 Kgs (AV)					
	May	Jun	Jul	Aug	Sept	Increase %
Grains						
Wheat crushed	2700/-	2800/-	2800/-	3000/-	3800/-	45.45/-
Maize seed	2400/-	2600/-	2800/-	3000/-	3600/-	50.00%
Rice broken ¼	3700/-	3900/-	4000/-	4200/-	4600/-	30%
Grams crushed	9000/-	9500/-	10000/-	11000/-	12000/-	50%
Dried fodder hays						
Wheat straw	840/-	850/-	860/-	880/-	900/-	17.14
Wheat bran	1800/-	850/-	1700/-	2000/-	2400/-	37.50%
Green fodder	600/-	650/-	700/-	750/-	800/-	60%
Dried barseen	300/-	350/-	400/-	650/-	850/-	33.33%
Dried maize	400/-	410/-	425/-	450/-	470/-	20%
Corn cob crushed	400/-	425/-	450/-	470/-	480/-	20%
Other conc:feed items						
Bones crushed	1200/-	250/-	1300/-	1350/-	1600/-	33.33%
Dried bread (roti)	1600/-	650/-	1680/-	1690/-	1800/-	12.50%
Sugar cane pith	800/-	850/-	900/-	950/-	1000/-	25%
Sugar beed pulp	500/-	500/-	600/-	700/-	750/-	30%
Chemicals /salts						
Dicalcium phosphate (dpc)	6000/-	6500/-	7000/-	7500/-	8000/-	33.33%
Sodium chloride (common salt)	600/-	620/-	630/-	640/-	650/-	8.33%
Sugar /glucose						
Molasses	3600/-	4000/-	4500	4800/-	5000/-	38.88%

Source –Market Prevailing rates in the study area

(a) Increase(s) in Petrol retail Prices

During the period under the study , an increase in Petrol was recorded for the months of (i) May , (ii) June, (iii) July , (iv) August ,(v) September and (vi) October as

17.77%,25.55%,27.77%, 27.77%. 24.14% and 22.22% when compared with the prices of April ,as laid down it the table No-01.

(b) Increase in Diesel retail Prices

Simultaneously the diesel prices, on the Petrol Pumps also recorded increased to the tune of 22.47 % ,26.40% 28.08%,26.96%,24.15% and 23.03% respectively for the months of (i) thru (vi) when compared with the prices of April -2022 as can be seen in the table No.01.

(c) Increase in Electricity Bills (E.bills)

As the study was conducted in Rwp-Isbd twin cities ,the electricity bills were increased at the dairy farms and one of the actual recorded bill in Bhara kahu ICT Isbd the E-bills for the months (i) thru (vi) with the units consumed as 429 ,449,488,446,381,and 321 the total amount payable for the months under study were recorded as Rs 9610/-, Rs15709/-, 19632/-,Rs15352/- and Rs 10432/- respectively ,as detailed in table No.02 and 03.

c-(i)- The increases were recorded in fuel Adjustment Price (FAP), FC Surcharge and TR Surcharge which resulted in in the increase of E/bills .

c-(ii) the Gop levies were also recorded increase to the tune of Rs1426/-, Rs1490/-, Rs2313/-, Rs2882/-, Rs2260/-and Rs1545/- for the months of May ,June ,July August ,Sept and October 2022which were added in the total amount of the bills (table no 03)

c-(iii) The total fuel adjustment (TFA) ,over and above the cost of electricity consumed ,was also recorded increased to the tune of Rs3968/-, Rs5199/-and Rs 2480/- in the month of July ,August and September ,as compared to Rs 654/- aand Rs 684/- in the month of May and June ,2022 as detailed in the table No.03

(d) Pak.Rupee (PKR) devalued against USDs

Another solid reason attributed to the price hike of commodities ,especially grains and animal feed items was recorded to the tune of Rs180/-,Rs 196/- , Rs 215/-, Rs 220/-, Rs224/-,Rs225/-(on an average) for the month of May –thru-Oct-2022, reflecting a percentile increase of 14,18.88, 29.44, 32.33, 34.33 and 35 % ,as compared to april -2022 values.

LITTLE DISCUSSION

The transportation cost of milk ,poultry sacrificial animal (for slaughter) in routine week days and Especially the Eid ul Adha days was increased due to increase in fuel prices (both petrol and diesel) as observed and recorded , that affected farm products .The second immediate stimulus to price was the electricity bills of the common man (at house hold level) livestock and poultry

farmers were not the exception .Increase in fuel Price adjustment and per unit rate of electricity affected the calculation of prices at farms (farm gate prices) of both poultry (broilers and eggs) produced and fresh milk produced .The transportation cost was also the concerted factor ,in increasing the prices.

Not only the above factors ,the cost of grains (wheat ,,maize,grams,rice,pulses as well as by products specially the wheat- Bran) .The rice husk ,rice polishing ,the maize corn cobs crushed and dried hays (Green fodder dried) wheat straw (Wht.Str) aand other related feed ingredients warranted the common sense attitude of both (i) farmers and (ii) traders ,including whole sellers and retailers alike .

Since Pakistan is a consumer society, animal products specially milk ,/meat ,eggs ,fish and by-products are being consumed on daily basis ,even the head and feet (of both large cattle and small ruminants –sheep and goats)are lavishly eaten in morning as special breakfast dish ,Other items also recorded increase in the prices such as Hides and skins including bones and bone products as well as guts and casings (consumed at home and exported also).

CONCLUSIONS

1. Based on the data collected together, with social media reports (both print and electronic -Tv channels) and documented evidences of weekly and fortnightly media reports on commodity prices of common items of food and feed ingredients have been increased from 13% -to -23 % on an average.
2. Simultaneously the increase in oil prices (specially Petrol and Diesel)
From the months of May –to –Oct-2022 remain main cause of increase of common food items as well as animal feed ingredients recorded in the retail markets of Rwp-Isbd twin cities and else where in the country.
3. The Pak rupee (PKR) devaluation Vs USDF (up-Scaled) became a fortified factor in increase of various Products , not only at whole sale prices but at retailer level ,that showed a negative impact and a financial burden on the end user , the common man.
4. The increase in Prices , as recorded , was in the range of 08% to 13 % in the months of May and June but this percentage was recorded as 19%-to –23% in the months of July ,August and Sept-2022,Mainly due to increase in Electricity bills ,at the farm house, retail shops and main markets resulting in the shooting up of prices .

5. The ultimate economic impact was recorded at the retailers end in fresh milk per litre meat(both beef , mutton and poultry meat) including eggs per dozed which affected the end user ,the common man.
6. The psychological trend of traders (both whole sellers ,retailors and various markets in the country ,including the farmer commonly ,when prices of certain food items is increased ,it never decreases despite lowering the prices of petroleum products or electricity and PKR revaluation ,which is a notion uncalled for and our trading community needs to be educated to bring down prices for the benefit of common man .

RECOMMENDATIONS

After having accessed all the facts and figures ,based on prevailing market rates amidst price hike of Petroleum Products ,electricity bills and PKR –Vs-Dollar ups and downs ,the following recommendations are made:-

1. The Government authorities must always keep in mind the commom man (the end user)while calculating electricity prices per unit ,the fuel adjustments and levies etc specially for the farming communities (of livestock ,poultry and agriculture)
2. Oil prices must also reduced when international oil prices are reduced .
3. The traders ,whole sellers ,the retailers and farmers must keep in mind the common –mans’ budgetary position in working out the prices (increase there) or decreasing if not possible atleast be contained.
4. The Price-control-committes(PCCS) must coordinate with farmers ,traders ,whole sellers retailors on fortnightly basic and/or weekly basic for fixing the prices of certain food items and feed ingredients for livestock and poultry .
5. A certain limit of profit –margin be affixed to avoid 3-4 types of retail rates,in the country.

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GROWING PULLETS AND COCKRELS ON ECONOMICAL FEED FORMATION AT HOUSE HOLD LEVEL IN RURAL AREAS ,BHARA KAHU,ISBD-(PART-1)

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ABSTRACT

This research article is based on a small but continuous experiment, conducted at house hold level in rural area of Islamabad Capital Territory (ICT) Bhara Kahu, using economical shed and home made feed formulation. The study involved a total of fourteen pullets 7 and cockrels (08) ,aged almost 3rd to 4th week ,non descript (Desi) birds ,weighing av =250gms. These were vaccinated against new castal disease (NCD) prior to arrival in the poultry pen on 15th August -2022. One waterer and one feeder was used. With in a weeks' time the poultry birds showed symptoms of occidiosis and coccidiostat was used in drinking water .Only two cockrels died due to coccidian infection. By the end of November, the birds were upto one Kgs(av 1000gms) and maturity symptoms appeared. The birds were transferred to a 10x20sq.ft shed where water supply ,feed and ample light was available.The feed used was a home made ,economical feed.50:50 with commercially available feed.The experiment resulted in good growth. ,good body weight (B.wt) and by the end of December production of eggs started.The study continued until –PAR-II (Dec:2022 onwards). The part-II of the study will be included in PJKSc-vol,xv-2023. It was recommended that a combination of commercial feed 50:50 home made feed proved sufficient enough to grow pallets & cockrels to maturity and for egg production.

Key words : Pullets, Cockrels , growing for maturity and eggs , economical feed utilization , rural Poultry approaches

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INTRODUCTION

Immediate after the announcement of a Federal Govt's coordinated umbrella Project namely , "Prime Ministers Special Initiative on Backyard and poultry " wef 2019-20 6 to 2022-23 ,some of the farmers in rural areas remained enlisted but were on (waiting list) for the birds but could not reach started giving attention to rural poultry per their own resources as the rates of broilers were shooting up from Rs270/-kg, in the months of May –June –thru-August-Sept 2022 (live weight) together with eggs ,per dozen ,shooted up from Rs 140-145/- in April –May to Rs220/- & Rs240 ,per dozen in September-October 2022 as recorded .(Prevailing market rates and weekly /fortnightly Pakistan Bureau of Statistics (PBS-2022-various reports), and media reports

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(both print media and electronic media) of May till Sept-Oct 2022.

The rural poultry –loving rural farmers (with hardly a space available for a cage(for 10-15 chicks /pullets /cockrels) and or ample space available for 40-50 birds (10x20Sq.ft) in the backyard or upstairs , in the open-sun-shine , covered with roofs protected with gauze and from rains and suitable bedding .One of the such rural poultry-loving farmer, started this actively from his own resources, with expectation of good results .Part-I of this experiment was shared with the researchers of Livestock Dev. Foundation (LDF) Regd, Bhara Kahu.

Technical and AHCS supports:

Technical and animal health care service support was provided on honorary consultation basis ,with the promise to share complete data and weekly information /progress of such an experiment.

(A) Technical Support

- Using the Animal Health and Production Workers’ Training Manual (AHPWTM) written by DR.M .Hafeez, President LDF and CE Farsalan Consultancy Services (FCS) , Bhara Kahu,(2021) housing arrangement were done prior to arrival of poultry birds .The pullets and cockrels of 2-3 weeks of age
- The birds commonly sold in the market were purchased weighing on an average 210-220 gms on 15th of August -2022.and apparently healthy cockrels and pullets ,up to the age of 2-3 weeks were purchased.
- Poultry pen was a small shed –measuring 10x20 Sq.ft was advised and constructed.

(B) Animal Health Care Services (AHCS)

- The birds were vaccinated against new castleDisease(NCD) ,twice.
- The birds were also informed as vaccinated against Infectious Bursal Disease(IBD) /Gumboro-disease ,prior to arrival .
- As no symptoms of NCD were recorded up to 4th month of age (Sept-Oct and November) the vaccination worked well.
- Symptoms of coccidiosis appeared , were provided with coccidiostat twice but gave a dent of two birds ,(within two weeks), till the completion of part-I of this study.

- No other vaccination regime was observed /carried out .

MATERIAL AND METHODS

1. This small experiment was carried out on 15-N poultry birds comprising 08-M cockrels and 7-F pullets ,of Desi breed obtained, from local market-RWP.
2. The relevant data on feed –formulation /feed provided .
3. Technical and AHCs advise were obtained from nearest available consultant on honorary basis ,with the promise to share results in the details of this experiments .
4. Vaccination was carried out twice against New Castle Disease (NCD)
5. Vaccination was also earlier done against IBD /Gumboro Disease .
6. Small cage was used for 2-3 weeks while a large pen/shed was constructed measuring 10*20 ft and in last week of October , in 3rd ,4th month, of age ,these were transferred to new shed.
7. The total number 6-M,now grown as mature cockrels and mature pullets of 7-F ready to become cocks and hens as apparent healthy condition observed .
8. Feed formation was a mix approach of homemade and commercial feed 50:50and supported with 1/2kgs of dried bread as well as kitchen refuse of vegetables etc.

RESULTS AND LITTLE DISCUSSION (part-1 of the study)

This study carried out from 15th August 2022 to November -15th provided the following results .

Table No.1 Status of Pullets & cocrels when first received and acclimatized in the home –shed (August-November-2022)

Date	Numbers	M	F	Av.BWt	Apparent age	Body growth	Comments
August 15 th	15	08	07	250-260gm	3 rd week	Color light	Sever one died ,coccidiosis
30 th August	14	07	07	270-275gm	5 th week	Developing feathers	No death (small cage)
15 th Sep	13	06	07	280-290gm	7 th week	Developing comb/tail feathers	One died (second attack of coccidiosis)
30 th Sep	13	06	07	320-340gm	9 th week	Maturity	No death transferred to large –shed
Oct 31 st	13	06	07	360-400gm	4 th month	Developed combs ,waters	No death
Nov 15 th	13	06	07	440-460gm	5 th month	White ear lubes to maturity,small vrices appear	No death bright feathers jumping for feed
(Study first phase –completed)						No egg production	Nests for eggs provided

Table No.02 Feed Provision and consumption observation August – Nov-2022

August 15 th	Apparent age	Av.Bwt(gms) 250-260	Consumption of feed	(Twice daily) with ad lib ,50:50 (for 3 days)
30 th August	5 th week	270-275	Two kgs and home made	50:50(for 3 days)
Sep-2022	8-9 week	320-340	Home made two kgs	50:50(for 3 days)
Oct-2022	4 th months	350-380	Two kgs home made	50:50(for 3 days)
Nov-2022	5 th month	400-450	Two kgs home made	50:50(for 3 days)

Table No.3 Feed Menu provided to growing cockrels and pullets August – Nov-2022 onwards ,in Rural Poultry Shed ,Isbd

Commercial feed	Mesh(one Kg)	Total Qtygms 1000 +2000gms =3000gms	Per chick
Home made	Wheat bran Two kgs		116-117gms
Sept-Oct And November			(346.154gms) Twice a day

1. Feed intake

The feed intake was one Kg commercial feed and two Kgs wheat bran to the tune of 116-117 gms ,in their third week of age and followed by 120-126 gms daily (provided twice – morning and evening)with ½ kgs dried bread, after every 2 days , Table –No-02.

2. The status of cockrels and pullets

When arrived, (obtained from the market) brought from Rwp to Bhara Kahu ,ICT Isbd weighed ,on an average 250-260gms , followed by weekly body weight (B.Wt) , as 270-275 gms while after one month (04 weeks) at the experiment after arrived mid – Sept (280-290gms) and with full intake of feed by the end of Oct (4th month of age) attained the B.wt on an average as 350-400gm while by the mid of Nov-these were above 1/2kg (640-660gms), as laid down in the table No.01.

3. Feeding of birds

Three times feeding started in November.

4. The results obtained

As per growth and body development 100:200 formula of commercial feed +home made feed with every second day ½-3/4 kgs of dried bread (broken as well as soaked) showed no feed left in the feeders .The home made feed also included kitchen –refuse ,green leaf vegetables (peelings etc).proved as mediocre but reasonably good feed for growth as detailed in the table No.03.

5. Health status of earlier and mature pullets /and cockrels

The health status indicated by the mid of November as (i) full growth of body conditions namely ,(ii) B.wt, (iii) feather appearance ,(iv) comb appearance(developed towards maturity , (v) wattles developed towards maturity and drooping towards indication of quick laying of eggs ,(vi) the long quill feathers of wings and tail prove towards adulthood and maturity ,(vii) cockrels now proving being voice of voices of being cocks and efforts of mounting.(viii) separate wooden baskets (ix) provided for sitting towards efforts of laying eggs ,(x) no death recorded ,(xi) no eggs production recorded.

6. Vaccines

No other vaccination of prior to lying ,done up to mid-November

7. Sunlight

Ample sunlight being provided, as the left longitudinal side of the new shed is wire gauzed , and the mature birds enjoy sunlight from 7:30AM to at least 3:30-4:00PM daily.

8. Water supply

Water supply containers rinsed ,cleaned with detergent and fresh water provided ,24hours daily.

LITTLE DISCUSSION

The farmer ,rural farmer ,the beginners as was intrested in raising rural poultry ,purchased young growing chicks Desi-birds (local breed) light brown to dark brown.(mix) these chicks comprised 15-N, (8M+7F) cockrels and pullets aged 2-3 weeks already vaccinated with NCD and IBD /Gumboro Disease.These might have picked –up coccidial infection , as these were caged in a neat and clean atmosphere.

Symptoms of coccidiosis based on clear cut appearance were observed ,prevailed for 2-3 days and symptoms disappeared ,but erupted next-week.Again the coccidiostat was repeated and pullets +cockrels recovered, remaining 13-N (6-M and 7F)which flourished ,and green to maturity by Mid-November(Phase-I).

As per feeding formulation ,the cost of commercial-feed was @Rs120/-per kgs , the farmer was advised a combination of 50:50 commercial (coml.) feed and homemade feed , encouraging the beginner farmer. The homemade feed comprised twice the Quantity (Qty) of commercial feed (one kg coml/feed) and two kgs of wheat bran (wht/brn)with ½ kgs of dried bread (on alternrate days) together with ample provision of kitchen refuse (leaves of

onions +garlic +green leafy vegetables and/or peeled scales of vegetables) which was eaten lavishly and hard pieces of such vegetables were rejected .

This part of the study ended by Nov-15th 2022 and shall be continued ,in next publication ,inshallah, in volume XV-2022,as promised the information on (a) health status ,(b) feeding formulation ,(c) growth and (d) laying of eggs etc,will be provided to LDF ,research Associate for further conclusions and reasonable recommendations to all interested farmers /beginner farmers in rural poultry production .

CONCLUSION

This experiment (part –I August-November 2022) of the study carried out at house – hold level,in rural area ,ICT Islamabad, with sustained weekly observations and outcomes.the following outcomes were reached at:-

1. The growing chicks of local desi –breed of 2-3 weeks age were grown in a cage (N-15) for 2-3 weeks ,with good result of growth of B.Wt and health.
2. Coccidiosis attacked the birds in first week (in the new cage),which was combated with coccidiostat of choice and recovered with a dent of two .
3. The remaining 7 pullets and 06 cockrels ,grew well upto 15th of Nov-2022,and were ready as mature cocks and pullets almost ready for quick laying eggs(might be in Dec -22) .
4. The most economical feed formulation of one Kg ,commercial feed with two kgs of wheat bran,130-140 gms daily, together with ½-¾ kgs of dried bread(every alternate days) as well as kitchen refuse, proved an economical growth providing formulation ,in house hold rural poultry production.
5. The egg production was expected by the end of December 2022 and /or early January-2023.

RECOMMENDATIONS

A single recommendation to the poultry loving ,beginner farmers is put forward to the effect that :-

Inspite of shooting up of prices of old chicks ,the commercial feed ,the live birds (broilers) the eggs per dozen ,the rural poultry production must be continued ,although a pains – taking sustained effort ,but with good result ,at the end ,but complete vaccine schedule observed with /no compromise on cost.

NB :- The second part of this experiment from DEC-22 onwards will reveal positive results ,inshallah.

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THE IMPACT OF REFORESTATION ON CLIMATE OF DISTRICT SUDHANOTI, AJK: AN OVERVIEW OF DECADES WORK

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ABSTRACT

This is a review part of the research proposal (the research work being already under was /as per plan of work) for the study entitled “ impact of reforestation on the climate of district Sudhnoti ,Azad Jamu and Kashmir (AJK) :A complete review of a decade ”.This review encompasses the work done by various workers ..at the initial stage when the research proposal has been submitted at the synopsis stage ,comprises UN’s sustainable Development Goals (SDGs) -2019 stating that 17 out of 19 recommendations could be met by 183 member countries by the year 2025.Also the work from China ,the Directorate of Environment (DOE) ,ICT Islamabad ,work carried out at Iran from other workers in Pakistan ,on forests and impact on environment ,including work done in France and USA has been briefly reviewed .Since this part of the review has been limited to initial research proposal (part-I) which is expected to be completed with complete data of the study area for the last ten years (a decade work) together with additional work ,to be reviewed for various countries and at home .

Key words : Reforestation, hilly ,sub-hilly area ,AJK, Pakistan

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The study is being carried out involving the work on reforestation as well as afforestation both by international researchers and the work done at home, as reviewed below:

The United Nation’s-Sustainable Development Goals (UN-SDGs) (2019) reported that member countries of the world forum, could meet 15 out of 17 SDGs, for the wellbeing of the human beings with forest tree plantation. As the recent reports advocately estimated 54% of the human population living in urban cities would reach 64-65% to the year 2025

Ruixue Liu and Jing Xiao (2021) provided a computer based analysis approach on Factors Affecting Users’ Satisfaction with Urban Trees through Online Comments, from Shenzhen, China as essential to give full consideration to the potential barriers facing urban green areas from their better functions and meeting residents’ needs in terms of collective perception and satisfaction. The study presented the methods of using social media (Dianping) data to investigate the potential make it feasible to identify the factors influencing people’s experience in tree plantation .By measuring emotions towards these factors , a multiple linear

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Influencing people's experience in tree plantation. By measuring emotions towards these factors, a multiple linear regression model helped to explore the relationships between the factors and people's satisfaction, and among them, determined the key ones. A total of 11,272 comments relating to the 79 case-study sites over nine years of data captured, with an average of 143 comments. The distribution of social media data was highly skewed. The results present (09) nine key factors of urban trees that affect the users' satisfaction, in addition to the common factors by previous studies including size, vegetation, recreation facility, landscape visual effect, maintenance of facilitated of trees and plants, and environment cleanliness. A series of contextual factors also significantly influenced people's satisfaction, such as sign system, mosquito and air quality. Among these, sign-system had the strongest influence. The results increase the understanding of the human-urban tree relationship and identify the characteristics of urban parks that facilitate the degree of satisfaction promotion, guidelines for planners and decision-makers to optimize people's imperative qualities of urban life, stressing for tree plantation.

Anders Busse Nielsen (2013) described urban areas as hosts for innovative ways to conserve and promote biodiversity. Specific type of urban green space, constitute particularly important biodiversity hotspots in the cityscape. The empirical findings on the species richness in urban areas across all species groups that had been studied. The aim was to assess and discuss the overall species richness of urban trees, its community attributed and drivers. Search and subsequent selection process resulted in 62 researchers work from 25 different countries examined species groups, findings consistently showed that grown trees were among the most species rich types of urban green spaces, but also that exotics constituted large shares, especially of plant species. It was also reported that the Key ecological theories like the gradient approach and land habitat ecological theory, and fundamental ecological relationships such as the species-area relationship were valid despite the manipulated 'nature' and the surrounding urban matrix, appears as the most decisive factor for the overall species richness. However, a constraint of research to date was the limitation of individual studies to one or a few species groups, rarely bridging between flora and fauna. Adopting 'multi-species group' approaches in future research was needed to further advance the understanding of the overall biodiversity of urban areas, and its drivers, in forestation.

The Directorate of Environment (DOE-2020-21) of Capital Development Authority (CDA) Islamabad (2020-2021) indicated in its recent updated report. The number of forest trees, trees planted in park areas, jogging track, flowering plants of horticultural importance and recreational facilities in each of the four Mega parks of Islamabad Capital Territory (ICT) namely (a) Rose and Jasmine Garden (RJS)-H-6, (b) Kachnar Park I-8 (KP-I-8), (c) F-9 park and (d) Lake View Park, Rawal Dam (LVPRD). The summarized overview of the details indicated total plants of RJS as 2153-trees; 15000 different kinds of Roses; Kachnar Park I-8 total trees=3702; F-9 Park total=13399 trees while the Lakeview Park showed 1345 trees of forest origin. The total area under trees as documented for the Parks (a), (b), (c) and (d) 87, 33, 760 and 170 respectively. The recreational opportunity facility for adults and children included (i) Jogging tracks (ii) sitting arrangement (iii) Picnic areas, (iv) Paved area for walks, (v) Security arrangement (vi) Aviary of birds ,(vii) Canopy arrangement, (viii) cycling track 580 meters and (ix) Separate walking tracks for ladies 1950 meters; with other details of flowering trees/plants. The daily visitors number have been reported as estimated with varied consistency which crosses more than 2000-3000 (Adults plus kids) ,and further reported crossing 8000-10,000 on week-ends and holidays might become double in Eid-Days, National Days/Holidays and in children vacations.

Shafagh Rahnema et al., (2018) conducted a study and explored preferences and emotion perceptions of people in Rashtand Ardabil (Iran) to some trees and ornamental plants, in order to help designing appropriate urban green landscapes. The study also surveyed urban tree users in the two cities in 2017 to identify and compare the most important factors underpinning the viability of public open spaces from the perspective of users and the extent to which the factors matched the visual features of the selected spaces (visual aspect). A random sample of 232 individuals was taken from students in Ardabil (119 persons) and Rasht (113 persons). A considerable part of the participants (37.2%) reported a feeling of tranquility when they saw flowers, while 28.8% of the participants reported a feeling of love in trees and flower-bearing plant species as were more appealing to the participants than leafy ornamental plants. Red was the most preferred flower color (52.1%) followed by violet (18.6%) and orange (11.4%) among the ornamental species commonly used in the design of green spaces. In addition to forest trees tulip (*Tulipa gesneriana*) (29%), rose (*Rosa hybrida*) (25%), and Easter lily (*Lilium longiflorum*) (19%) were in the first top ranks of preferences, respectively. Coleus

(*Solenostemon scutellarioides*) and garden croton (*Codiaeum variegatum*) were also reported among preferred species. The results support the assumption of similarity in preferences and requirements of citizens of large cities for forest trees and despite great diversity in geography, culture, and ethics, exhibit similar emotion perceptions. The study findings also expected to support public authorities and urban planners to effectively design and manage urban green spaces to meet users' needs as suggested.

Shengju Li et al., (2019) studied the Influence of Seasonal Diversity Deduction of Landscape Plants on Landscape Vision as Urban garden landscape remain a topic of great concern in the process of modern urban construction belonging to the landscape, with vitality in the construction process. The plant landscape also appeared as also the product of the combination of economy, culture and technology. The cold land plants belonged to the only life-changing and cyclical elements in the garden design process, using the seasonal changes of their distinctive features to realize the planning and design, which could effectively enrich the overall landscape effected betterment in the environment included space and color. The seasonal changes of color included leaves, flowers, fruits and branches, and the spatial characteristics in different periods of plants. The study analyzed the influence of seasonal changes of trees and plants on the landscape construction of garden space from three aspects of (i) function, (ii) season and (iii) beauty. Therefore, the characteristics of seasonal changes of garden trees and plants in cold regions were analyzed.

So the number of green plants in the garden was increased, effectively expand the greening range, and the green plants can also effectively relieve the pressure and vision viewing green plants. In the garden, not only plant trees and green plants, but also ornamental flowers and plants, to effectively improve the viewing period of the garden landscape.

Luca Száraz (2014) reviewed the Impact of Urban Green Spaces on Climate and Air Quality in Cities as every urban landscape being significantly different from the whole environment. The urban landscapes having green spaces decreased mainly made of artificial surfaces which had unique physical attributed urban climate which influenced the air quality, outdoor thermal and human comfort. It was further reported that although, half of the Earth's population lived in cities, the importance of urban air quality and climate issue had a high impact on urban planning processes despite the fact that urban weather and climate is essential for human well-being. The main objective of the present study had been to investigate how urban green trees and spaces impacted on the air quality and the microclimate in cities. Each study examined urban climatic process and how the process differed in urban environment which included vegetation and trees.

Jessica and Turner-Skoff (2019) conducted the study on the benefits of trees for livable and sustainable communities in an era influenced by humans to the point that the Earth's systems looked as altered. In addition as stated a majority of the world's population lived in cities. To meet the needs of people in a changing world, The United Nations General Assembly created the United Nations Sustainable Development Goals (UN SDG) to improve the quality of life for people. Such broad goals outlined the greatest challenges of our time. An effective strategy to assist in meeting the goals to plant and protect trees, especially in cities where the majority of people lived This study and presentation serves as a critical review of the benefits of trees. Trees promote health and social well-being by removing air pollution, reducing stress, encouraging physical activity, and promoting social ties and community. Children with views of trees were more likely to succeed in school. Trees promote a strong economy and could provide numerous resources to the people that needed them, as the cities were getting hotter, trees could reduce urban temperatures, provided habitat and food for animals and were valuable green infrastructure to manage storms water. Money spent on urban forestry had a high return on investment. As we navigate this human-dominated era, skilled people were also needed who understood the nuances of the built environment if strategically plan the cities of the future. The overwhelming evidence from the scientific literature and the study suggested that investing in trees meeting the UN SDG, and ultimately an investment for a better world.

Muhammad Nadeem et al., (2010) reviewed the Impact on human life. Public parks as these provide opportunities to enrich the quality of life for all ages and abilities. Parks are the key contributor to the aesthetic and physical quality of the surroundings. In the present study health, social, personal and environmental benefits associated with trees were evaluated. A total of 200 respondents belonging to different ages, professions, education, income and groups were interviewed. Seventy percent (70%) of the respondents strongly agreed that trees had potential contribution and improved the health status and psychological wellbeing of the people visitors and 7% were uncertain about it. Similarly 83% of the respondents agreed that trees enhanced the beauty of the city. Whereas 86% of the respondents showed that plants reduced the air pollution by purifying our environment. Health benefits and 60 % felt relaxed and reduced, mental stress/ tension.

Monika Czaja et al., (2020) reviewed the complex issue of urban trees stress factor Accumulation and Ecological Service Possibilities. With ecological role of trees in urban

landscapes considering their growth conditions. The Research Highlights were: (i) Plant growth conditions worsening due to high urbanization rates and new stress factors; (ii) Urban trees being capable of alleviating the stress factors exposed to; (iii) The size and vitality of trees related to the ecological services provided. The review showed in a clear way, that the phenomenon of human-related environmental degradation, which generated urban tree stress, alleviated by the presence of trees. Related to urban environment degradation and its influence on trees. Raising the mortality rate of urban trees while the second part average life expectancy of urban trees was relatively low and depended on factors such as the specific location, proper care and community involvement, among others. The third part concerns the ecological and economic advantages of trees in the study area. Trees aspects citizen safety, health and improve the soil as well as the air environment. Finally, It presented the draw backs of three planting and discussed caused by trees itself or /rather by improve the tree management.

Jing Xie (2020) carried out a study on Urban Plantation an trees as green buffers during the COVID-19 Pandemic as in many parts of the world, led to a general decline in the physical and mental health of residents due to insufficient social interaction. The sample size was 386. Participants could view the study research detailed at the top of the Questionnaire; there was no (approved by the Local Ethics Committee of the College of Landscape Architecture, Sichuan Agricultural University, China). The adverse effects could cause potential public health risks. Ways to alleviate the adverse impact of the pandemic and to meet social interaction needs were widely addressed. The survey was 386 responses from residents of Chengdu, China, during the pandemic, based on an online survey questionnaire. The results indicated that most of the residents believed the health status as poor, did not experience adequate social contact with others. Most of the respondents indicated no difference in mental health, while a few reported differences in physical health and social interaction levels ,the respondents were more likely to be female and younger, with a higher proportion of respondents (aged 18–35) a smaller proportion of respondents was older than 75. Also, participants were often better educated, i.e., 57% of people chose “college” and 24.6% “graduate” to describe their education status. Visiting urban green trees could significantly improve overall health and assist in meeting individuals’ social interaction needs. The conclusion affirmed that green trees and large outdoor, open spaces provided residents with a place for safe outdoor activities and social interaction in a green environment during a pandemic, as well as area to maintain favorable health and quality .

Hassan Z, Anjum and Gull Jan (2020) gave informative and research based report which provided effect of BTAP on socioeconomic livelihood of local communities in district Haripur KPK, Pakistan. The study area was located within KPK province of Pakistan. Haripur district located 65 km north of the Federal Capital Islamabad. The district area was 1725 km square and population of 1,003,031 inhabitants, with 498,481 men and 504,483 women. Out of 200 respondents interviewed for data collection, 68% household showed main source of income as farming and labour, (11.5%) people's livelihood source was only farming and 35% were dependent on both farming and labour. Labour alone was source of income of 21.5% respondents, who had no land and lack of other resources. It was recorded that Plantation has affected the crop production positively protection of majority of respondents (78.5%) who were of the view that due to planting of trees agricultural production had increased and the problem of grazing animals was controlled. The study also revealed that majority of respondents were indulged in farming and working as labour for livelihood. It was concluded that Majority of respondents possessed more barani land then irrigated lands and a less larger percentage (43%) of people were landless. Those who were close to the afforestation area were provided jobs as jobs were created in PTAP Haripur, project during the study. It was also concluded that such projects were needed to be implemented in hilly and sub-hilly area for socio-economic uplift of local communities, developing forest as an investment.

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BRIEF OVERVIEW OF THE PROGRESS ACHIEVED IN PROJECT CARRIED OUT UNDER PRIME MINISTERS INITIATIVE FOR BACK YARD POULTRY , IN THE COUNTRY

Tabinda Khwaja¹ Khursheed Ahmad ²,Muhammad Hafeez³

ABSTRACT

An umbrella project was developed ,approved and implemented throughout the country during the period 2019-July till 2022-23 (June) ,with aim and objectives (i) to enhance the productivity of poultry meat and eggs by strengthening backyard and poultry birds ,through the provision of five million high producing birds on 30% subsidized cost.The span of the project was spread over Punjab ,Sindh , KPK, Balochistan, AJK, GB, Merged distt. of NAs and ICT Isbd,(ii) addressing protein deficiency and malnutrition and (iii) capacity building of the house-holds and field staff ,throughout Pakistan .The summarized reports indicated that out of 05 million poultry birds committed were 02 million from Punjab , One million each from Sindh and KPK ,while 0.5 and 0.1 million from Balochistan and ICT respectively with 0.250 million from AJK and 0.15 0 GB respectively .The ration of male and female birds has been 05/f:01M .The total cost of the project for 04 years was RS1635.47 million with share of Federal Govt. =Rs279.331,provincial govts Rs349.30 and beneficiary share of Federal govt. Rs279.331,Provincial Govt.=Rs349.30 and beneficiary share of Rs 1006.84 million respectively. By the end of 4th year (2022-23) Sept-Oct 2022 ,with a subsidy of 30% to the end users .The targets achieved had been promising as tabulated in the text of this article .This research cum production enhancement program of strengthening rural poultry /backyard poultry ends with benefits and farmers encouragement towards rearing backyard poultry in sustainable basis towards self-reliance.

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 3. President LDF-Islamabad

BRIEF OVERVIEW OF A PROJECT ;THE CONCEPT CAPACITY BUILDING AND PUBLISHING PAKISTAN LIVESTOCK UPDATE REVIEW ANNAL (PLURA) MNFS, AND R, GOP ,ISLAMABAD

Muhammad Hafeez¹

In the light of livestock development approaches a concept clearance was endeavoured ,on the Planning and Development Division's proforma , for consideration under Public Sector Development :Projects (PSDP) to be implemented wef 2022-23 to 2026-27.(PSDP), in the year 2021 ,which is under consideration .The brief information contained therein indicates ,as per its objectives, to collect information of livestock sector from (i)Livestock and Dairy Development Deptts (L and DDDs) and(ii) Directorate of Livestock and Research of the Provinces,(iii) The Research Organizations (VRIs) ,(iv) The Private Sector Processing Units (hides and skins casings and guts ,bone crushing units ,milk plants ,animal feed mills and production of Veterinary (vety) ,medicines and vaccines, (v) Academic institutions (Vety faculties and(vi) other institutions of the country. This data will be published as a document ,proposedly ,Pakistan Livestock Update Review Annal (PLURA) pulished two hundred each copies ,on yearly basis ,on the analogy of OIE Animal Health – Rev, Annal; so, Pakistan becomes at par with the 183 member countries of the world at UN General Assembly and OIE, (the World Animal Health Organization ,Paris ,France).

Some of the salient features of the project include one Provincial Focal Person (FP) each from L and DDDs VRIs (total -11) ,of the Provinces ,AJK and NAs/GB who will be supported, financially on per month (PM) basis and travelling cost with equipments etc, coordinating quickly-online.

One National Seminar, after two years, is also proposed where- in all FPs will present their work and all Directors /DGs will participate along with private sector representatives .Very few establishment positions namely Project Director ,Two Tech: officers with office assitants and one technical consultant (publications) with supporting finances for furniture equipments .,TA/DA, seminar expenses and logistics as well as printing cost has been included.The PC-Is are already completed for submission with a mediocre cost of Rs. 83.78 million PKR for 05 years . This project will bring tangible benefits to livestock sector of Pakistan.

1. President LDF-Islamabad

BRIEF OVERVIEW OF THE CONCEPT ,” LIVESTOCK ECONOMICS AND BUSINESS MANAGEMENT APPROACHES PROJECT (LEBMAP) ,MNFS AND R GOP,ISBD

Muhammad Hafeez

This project at the concept clearance stage, submitted for consideration is a joint effort of Livestock and dairy Dev.Board (LDDDB), MNFS and R and the Livestock Development Foundation (LDF) Regd ,Islamabad to be carried out Islamabad .Proposed for a period of 05 years 2022-2023 to 2026-27, which was submitted for consideration in the year 2021, now proposed for 2022-23 onwards .Some of the main features ,as per objectives include (i) Providing practical and theoretical training to 30 Veterinary Officers (VOs) ,Livestock Production Officers (LPOs)and VOs Health , 05 each nominated from the provinces ,AJK,NAs/GB and Directorates Farms .(ii) based on the training books (1-6) of this one months’ training the farming material(text-books) developed by the Livestock Development Foundation (LDF) and some prepared by Farsalan Consultancy Services (FCS) will be provided to each trainee and lectured by Resource Persons.

The Resource Persons (RPs) will be hired for lectures in addition to the Project Trainee officers (PTOs),Principal Training Officers (PTO)- (1) Training Officers -(TOs) -(2) One Publication Consultant (President LDF) or representative with supporting staff and provision for printing of above stated course books as well as provision of equipments, furniture and supplies included .Four such trainings per year and proposed producing 600 such trained personnel in 05 years as an addition to the HRD of the country, an asset needed.

As per second objective of this project ,a similar training Program is scheduled for Trained Jawan Program /Farmers (30each) in four such trainings per year ,producing 600 such trained /skilled workers in the same 05 years period towards livestock farming .The Training Manuals (i-vi) have been prepared and will be provided by LDF (Regd) for each training .Financial provicion ,a mediocre amount has been allocated for establishment ,RPs ,printing cost of books and two seminars ,in five years , together with field visits of trainees in the Govt. institutions as well as private sector livestock processing units .(study tours) A total cost of PKRs 78.44 million has been proposed in the project The Project document ,the PC-I is ready for submission .A joint technical and Financial Agreement is a part of this Project Proposed , defining what is to be done in the project duration, by Livestock Dev. Foundation(LDF), as per commitment .

1. President LDF-Islamabad

**A BRIEF OVERVIEW OF THE PSDP-PROJECT OF MNFS AND R GOP ENTITLED
“PRIME MINISTERS INITIATIVE FOR SAVE THE CALF ” 2019-2022-----2022-23**

Mohsin Kiani¹ and Khursheed Ahmad²

As per Prime Minister’s Special Initiative for Livestock Sector (PMSILS), in addition to other Sister PSDP Projects, the project sited as subject (project-1) was launched with the objectives to produce 380,000 male calves to save from early slaughter (in four years period), supported with financial assistance @Rs3000/-per calf for the registered farmers ,The total cost of the project was 3.4 billion PKR with a share contribution of 20% of the total cost while the remaining shared by the provinces ,as detailed in the PC-I(2019-20)Pak Economic Survey Report .

In addition to above Project , “calf feed lot fattening in Pakistan ”Project –II was also approved with the provincial coordination and commitment to persuade farmers in producing healthy calves, for beef production and business in the country .This incentive had been to the tune of Rs4000/-PKRs for each calf, paid to farmers. The total cost of this part of the project had been RS2.4Billion PKRs(as per details available and laid down in Pak Economic Survey Report (2020-21).the Govt. of Punjab is continuously reporting the progress on National T.V channels of social media for achieving the protection for the calves rearing and for compensating to farmers (Nov-Reports 2022)

The targets under the project –I described a total of 380,000 male calves be saved (Punjab =160,000,KPK=80,000,Sindh=112000,GB=8000,AJK=12000aand ICT=8000) In a two years physical progress indicated a total of 94,214 male calves saved as recorded in the year 2020-21 and 2021-2022 (Punjab =57000,kpk=2796,Sindh= (report not available) GB=3157,AJK=4306 and ICT=1700.

As the details are yet coming up ,a detailed and complete progress will be available ,after the completion of the project by the year 2022-23 (June 30th - 2023). Such an achievement is getting appreciation from all stakeholders.

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FEASIBILITY TO DEVELOP AN ECONOMICAL DAIRY FARM OF 06 BUFFALOES / COWS , IN RURAL AREAS OF RWP-ISBD ,WITH FGP OF FRESH MILK

Muhammad Hafeez

ABSTRACT

In the wake of shooting up of prices of commodities ,cost of petroleum products and electricity bills, affecting cost prices of live animals meat (both beef ,mutton and poultry meat), milk and milk products including eggs ,students of animal sciences ,academia and farmers pointed out for a fresh feasibility to help assist new beginner/investors hence ,this effort is presented which briefly describes (i) cost of 6 live buffaloes (ii) cost of operational expenditure (feed and fodder) with gawala salaries) and (iii) miscellaneous expenses for 1st ,2nd ,3rd ,fourth and fifth year with ,(iv) expected feasibility based cost of milk produced .This approach is an update of our previous feasibilities ,detailed in the text book “The Livestock Economics and business management Approaches in Pakistan ” (2021) and similar attempts in our published articles ,elsewhere .The present cost , based on market rates (at purchasing point plus cost of transportation per truck load (of six worse buffaloes/cows including, newly born calves (♀♂) has been documented as Rs1,380 and 1.290 millions operational costs comprising (a) feed /fodder (green +hays +conc:feed) and gawala salaries @ Rs20,000/-PM ,the Animal Health Care Services (AHCSs) and cost of medicine and vaccines needed along with miscellaneous expenses on utensils , disposable liveries’ with , shed equipment came to the tune of Rs1.10 million for first year =2022 and was calculated as Rs130/- million for 2023.Lastly the cost of fresh milk per litre , Farm Gate Price (FGP) , the cost of transportation ,milk shop rates and the rates of milk men for door to door supply depended on Rs05/-to Rs06/- per litre (for 2022). The projected rates of FGP Projected as Rs140/- Rs143/-and Rs145/-and Rs 148/- for the years 2023, 2024 and 2025 respectively with increase in yearly expenditures Rs05/-65% (projected). Lastly there are jotted down financial analysis conclusions and recommendations for beginner farmers and new interested investors .

Key words : feasibility economical dairy animals Unit , Rwp-Isbd ,Rural areas ,
Prices of fresh milk FGP

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INTRODUCTION:

As per increasing rates of various food commodities and animal feed ingredients, in the wake of new development of sudden increases in electricity prices (per unit as well as Fuel Adjustment Prices (FAP) together with fuel prices as increased by 19% to 21% in the month of May-June to August-Sept 2022, the psychological inflation played its role in the market , together with shooting up prices of US Dollar (USD) against devalued result of Pakistan Rupee (PKR), Livestock sector was also under direct attack of such a prevailing situation .

1. President LDF Islamabad

The Research team of Livestock Development Foundation (LDF) Regd ,Islamabad was entrusted with the task to investigate the real situation , at least at Rawalpindi-Islamabad (Rwp-Isbd) rural areas of twin cities. The increased rates of various items (of human food and ingredients of animal feed) as have separately been documented showed as increased by 08.88% to 21% in feed-grains (wheat ,maize and wheat-bran, crushed ,maize and wheat grains while the items namely grams ,rice, mash , masoor lentils ,other pulses and edible oil (the palm oil and sarson oil etc) increased by 80%to 110% in May-June to August –Sept 2022 and never reversed, as documented in Press (Print and electronic /Tv Channels by Pakistan bureau of Statistics (PBS-2022), print media (2022) and fortnightly reports by Idara-e-Shumariat ,the Statistics Division (GOP-2022-for the reported months).

The author of these research based articles was , as a matter of fact ,given the stimulus to bring up a feasibility , in the wake of new developments towards increased prices ,as narrated above ,and a forecasting projected version for some of the new investors /beginner farmers (those who have sufficient space available in rural areas of Rwp- Isbd, as some of the farmers were getting slightly discouraged specially those Kamyab –Jawan /Farmers who received a reasonable loan package from the banks for investment .At least seventy thousands (70,000/-)such incumbants were awarded a total amount disbursed to the tune of Rs 222 million PKR (Dec-2021) and reported in the press in March -2022(press release by the Planning and Development Division (P and DD) and ex PM house reports on Kamyab Jawan Program(2022 and March 2023).

Livestock Products market rates increased such as table –eggs , were not the exception , as can be seen in the following comparisons table, in the next pages:-

MATERIAL AND METHODS

To complete this write up ,the research team of LDF collected the following information and was included in the analysis:-

- 1.Retail market rates of animal feed ingredients from Rwp-Isbd rural areas.
- 2.The live animals (both buffaloes and cows) newly given births from central Punjab.
- 3.Transportation cost ,of truck loads (of six –buffaloes/cows with calves) destined at rural ICT-Islamabad and rural Rwp (2022).
- 4.The Eid-ul-Adha transportation rates were not included as to avoid miscalculations.
- 5.weekly and fortnightly commodity rates of Statistics Division ,appearing in the press as well as

Idara-e- Shumariat reports collected and incorporated .

6.Retail and Farm Gate Price (FGD), collected for fresh milk and incorporated.

RESULTS

As a result of this study and efforts made for outcome ,as feasibility , the following are the findings of this effort presented in the tabulated form :-

1.cost of live dairy buffaloes (#06)

The average cost of 1st Calves (Jhotis), in central Punjab, (at various Deras) ,Not the market rates, was averaged and the cost of six buffaloes (with calves –both male (M) and /or female(F) as well as transportation cost of one truck load recorded as 1.686millions PKRs as laid down in table No 01.

2.Cost of live Dairy cows (#06)

Simultaneously the cost of first Calves (Jhotis) in central Punjab, the average cost ,per truck-load of o6 cows (with 06 calves both male and females) together with transportation cost was recorded as rupees 1.596 million PKRs table No 01.

Table no 01 Cost of live dairy buffaloes and cows (at purchasing and farm sites) Central Punjab

Particulars	Amount	Particulars	Amount
A		A	
i. Cost of 6 buffaloes with 6 b-calves @RS2,75000/- Range (2,20,000-2,260,000)	1.650	i. cost of 6 cows with 6 c/calves@ RS2,60,000/- Average	1.560
ii. Cost of transportation from Sahiwal – Arifwala –Okara –chichiwatni” @Rs 30000/- per Truck ,one way to RWP-Isbd.	0.036	ii. Cost of transportation	0.036
Sub total	1.686	Sub total	1.596
iii. Cost of shed =(available) 25*50-covered 50*100 open available or rented@Rs 20,000/-	0.240	iv. Cost of shed =(available) 25*50-covered 50*100 open available or rented@Rs 20,000/-	0.240
v. Dairy equipment		vi. Dairy equipment	
• One silver steel can 100-300	15000/-	• One silver steel can 100-300	15000/-
• Two small cows 70-100 liters	16000/-	• Two small cows 70-100 liters	16000/-
• Steel buckets (03)@ Rs 2500/-	7500/-	• Steel buckets (03)@ Rs 2500/-	7500/-
• Hand Trolley-1	6000/-	• Hand Trolley-1	6000/-
• Spades -02	2000/-	• Spades -02	2000/-
Sub total	46500	Sub total	46500
	0.046		0.046
vii. Gawala Salary One gawala for six is enough@RS20,000PM	0.240	viii. Gawala Salary One gawala for six is enough@RS20,000PM	0.240
Total cost	2.212	Total cost	2.212

Table No-02 Operation cost of Economical Dairy Animals Unit at Rwp-Isbd (Rural Areas)

B OPERATIONAL COST	Amount in millions	B OPERATIONAL COST	Amount in millions
Food and fodder		Food and fodder	
(i) Green @Rs480 per 40kgs 30kgs per day = Rs360(*06*365days) =7,88400	0.788	(ii) Green @Rs480 per 40kgs 30kgs per day = Rs360(*06*365days) =7,88400	0.657
(iii) Dry fodder Wheat straw@12Kgs/day=Rs240/-	0.526	(iv) Dry fodder Wheat straw@12Kgs/day=Rs240/-	0.438
(v) Conc:feed (wheat bran) 03 kgs/day 150/- *06*365	0.328	(vi) Conc:feed (wheat bran) 03 kgs/day 150/- *06*365	0.328
Sub total	1.642	Sub total	1.423
2.212+1.642=3.854		2.122+1.423=3.545	

3. Operational cost with cost of Shed (Rented)

This included shed availability (if owned-well and good), rented, the cost of rent for 6-10 buff/ or cows as was earlier Rs15000/pm, it was now recorded in the study period of 2022, as Rs20,000/-pm which was simple calculated as rupee 0.240 million PKRs, per year, table No-01

4. Operational cost –Feed and Fodder

The recent rates of fodder cuts of (places) of Rwp-Isbd rural area averaged ((i)Tarnol, (ii) Rwp-Railway-road, (iii) Rawat, (iv) Bhara Kahu and Tarlai, fodder markets), with wheat straw and wheat bran came out to the tune of Rs1.642 million PKRs for Buffaloes, while this amount for cows was recorded as rupees 1.423PKRs respectively, displayed in table No-02

5. Miscellaneous Operational Cost

This budget head included (i) Animal Health Care Services (AHCS), (ii) Veterinary (Vety:) drugs and vaccines (essentials), (iii) disposables, (iv) kitchen expenditure, (v) Utility Bills and (vi) cost of transportation of feed /fodder (from fodder market to the dairy unit/dairy farm, as well as Transportation of fresh milk to sale points /fresh milk shops. The total amount of expenditure was recorded as Rs0.574millions PKR, (both for buffaloes and cows, as detailed in the table No-03.

6. Total Expenditure/investment for the First year

As per simple calculations, the total expenditure on (a) live dairy buffaloes =06(with 06 B/calves)with operation was recorded in the study period of 2022 as 4.428 million PKRs while the total expenditure / invested on live cows=06(with 06c/calves) with operational cost was obtained as Rs4.119, respectively, as appears in the table No-03.

7. First Year Gross Income :

The main gross income was obtained from the sale of fresh milk of 06 buffaloes. The production of fresh

milk was recorded @20130 litres /years ,the location period being 305 days /year and the reasonable (FGP) was @Rs120/-RS130/-per litre (on average) of at least 22 buff/cows dairy units registered with LDF, isbd, so the very recent FGP of Rs130/- was cleared and the sale income from fresh milk was recorded as Rs2.616 millions PKRs while this rate for cows milk was Rs 2.379PKRs as the production of milk was obtainable as 18300 litres per location (of 305 days –a-year), as stated in the table No-04.

During the first years’ period No sale of Young calves or No sale of Farm Yard Manure (FYM) was recorded .

8. Second Years’ reinvestment /Expendure (projected)-2023

As understood ,the dairy buffaloes /cow (already available) ,the only expenditure remains the operational cost of (i) gawala salary ,(ii) feed and fodder ,(iii) AHCS, Vetty: drugs and vaccines ,(iv) disposables , (v) kitchen expenditure , (vi) utility Bills and , (vii) cost of transportation of feed and fodder with fresh milk to milk shops .This amount was recorded /projected (with reasonable increase with only feed and fodder and miscellaneous) ,total to Rs 2.974 million for buffaloes while this amount was calculated as Rs2.733 million, presented in the table No-05.

9. Second Years’income (Projected)-2023

The main gross income from buffaloes milk over a production targeted quantity of 21960 litres ,sold @ Rs135/- and /or Rs140/- FGP (Rs140/- was taken for this study) amounting to Rs3.074millions while the cows milk production projected to the quantity of 20130 litres with a proposed cost of FGP as RS140/- per litre came to the tune of Rs2.818 PKRs.

10. Break even stage

As apparent , with simple calculations , as per Business Management principles , when the investment /expenditure remains very close to gross income, in a specific time period ,this is declared as Break Even stage ,hence in six buffaloes and /or six cows economical unit, is giving a break even stage ,by the end of Second year which is a best encouragement for beginner farmers .

Table No-03 Miscellaneous Expenditures (obtained average from) Three local dairy farms –Units –Rwp-2022

C	Miscellaneous Expenditure	Amount	C	Miscellaneous Expenditure	Amount
a.	Animal Health Care Service (AHCS)@Rs7000/-PM	0.084	a.	Animal Health Care Service (AHCS)@Rs7000/-PM	0.084
b.	Vetty Drugs and vaccines	0.060	b.	Vetty Drugs and vaccines	0.060
c.	Disposable <ul style="list-style-type: none"> • Uniform • Soap/detergent • Brooms etc 	0.030	c.	Disposable <ul style="list-style-type: none"> • Uniform • Soap/detergent • Brooms etc 	0.030
d.	Kitchen Expenses Phones and cells 1,50,000/- (meetings and visits)	0.150	d.	Kitchen Expenses Phones and cells 1,50,000/- (meetings and visits)	0.150
e.	Utility Bills Electricity + SNGPL	0.120	e.	Utility Bills Electricity + SNGPL	0.120

f.	Feed /fodder Green fodder ,(Transportation, market –farm +Transportation and milk) 0.280 Subtotal 0.574	f.	Feed /fodder Green fodder ,(Transportation, market –farm +Transportation and milk) 0.280 Subtotal 0.574
	First year's total expenditure (A+B+C) above (2.212+1.642+0.574) in million PKRs 4.428		First year's total expenditure (A+B+C) above (2.212+1.642+0.574) in million PKRs 4.119

Table No-04- First year farm income (from sale of milk ,FYM and male calves sale in the year 2022

Buffaloes (06) in Milk Production of milk @ 11liters /day =*06*305days 21130liters per year	a Sale of milk @Rs120/-per litre (PGP) 2.415 @Rs125/-per litre 2.516 @Rs130/-per litre 2.616	b Sale of FYM= Not yet sold	c Sale of male B/calves Not yet sold (too young)	Total =
Cow (06) in Milk Production of milk @ 11liters /day 18300liters per year =*06*305days	a Sale of milk @Rs120/-per litre (PGP) 2.196 @Rs125/-per litre 2.287 @Rs130/-per litre 2.379	b Sale of FYM= Not yet sold	c Sale of male /calves Not yet sold (too young)	Total =

Table No-05 Second Year's financial Picture (operation cost) and sale income , at the farm (project figure)-2023

Buffaloes • Inventory adults 06 • Growing B/calves(M3+ F3)	A cost of animals nil B rent of shed 0.240 C Operational cost Feed and fodder 10% increased for Growing B/calves (1.642+0.164) 1.806 D Gawala salary 0.240 E Miscellaneous (05/increased) (0.574+0.114) 0.688 Grand Total 2.974	Cow • Inventory adults 06 • Growing B/calves(M3+ F3)	A cost of animals Nil B rent of shed 0.240 C Operational cost Feed and fodder 10% increased for Growing B/calves (1.423+0.142) 1.565 D Gawala salary 0.240 E Miscellaneous (05/increased) (0.574+0.114) 0.688 Grand Total 2.733
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Table No-06 Second Year sale income (of milk +FYM+ male calves)2023

Buffaloes (in milk) #6 Production of milk @12litre /day /Buff=21960 litres /year	A Sale of milk @Rs135/-per litre 2.965 @Rs140/-per litre 3.074	B Sale of FYM Not yet sold	C Male B/calves Not yet sold	Total=
Cows (in milk) #6 Production of milk @11litre /day /Buff=20130 litres /year	A Sale of milk @Rs130/-per litre 2.616 @Rs140/-per litre 2.717 @Rs140/-per litre 2.818	B	C	Total =

By the end of the second year this is very close to breakeven stage if the shed is rented one

Table –No-07 Third Years Picture of 06 Dairy Buffaloes /Cows towards expenditure and income at the farm in Rwp-Isbd Rural area-Projected for -2024

Operational cost		Operational cost	
Inventory of dairy buffaloes		i Inventory of dairy cows	
• Adults		• Adults	
• B/calves	06 (in milk)	• B/calves	06 (in milk)
Growing -2-21/2 years	06(03M+03 F)	Growing -2-21/2 years	06(03 M+03 F)
Feed and fodder		i Feed and fodder	
Cost increased by 20% of the second year (1.806+0.361)	2.167	i Cost increased by 20% of the second year (1.806+0.361)	1.878
Gawala Salary increased by 10% @Rs22000/-pm	0.264	i Gawala Salary increased by 10% @Rs22000/-pm	0.264
Miscellaneous increased by 5% of second year (0.688+0.0344)	0.722	i Miscellaneous increased by 5% of second year (0.688+0.0344)	0.722
Grand total	3.153	Grand total	2.864

Table No-08 Third Year's income picture of 06 Dairy Buffaloes /cows kept in Rwp-Isbd Rural areas-2024(Projected)

i Inventory of Dairy Buffaloes		i Inventory of Dairy cows	
• Adult		• Adult	
• B/calves growing to adult	06 (in milk)	• B/calves growing to adult	06 (in milk)
• 03 females crossed for breeding	03M+03F)	• 03 females crossed for breeding	06(03M+03F)
i Production of milk	23790	ii Production of milk	21960
13 lit/Day=(*06*305days)		13 lit/Day=(*06*305days)	
Sale @Rs145/-	3.450	Sale @Rs140/-	3.074
@Rs148/-	3.521	@Rs145/-	3.184

Economical Dairy Unit

Status of the farm projected for third year of its running on a rented farm shed

- i. Buffaloes crossed the breakeven stage and profiting by 0.297 millions /year just selling milk for Rs145/- per litre
- ii. 03male B/calves , matured for bull ,age -2-21/2 years
- iii. 03 female B/calves impregnated for breeding .

Table No-09 Fourth year's Expenditure and income Status of Economical Dairy Unit , at Rwp-Isbd-Rural areas -2025

Dairy Buffaloes Unit		Dairy cows'Unit	
Inventory (4 th year)		Inventory (4 th year)	
• Adults 06		• Adults 06	
• 03B/calves impregnated		• 03B/calves impregnated	
• New born -06 calves of original stock (03-M+03F)one year		• New born -06 calves of original stock (03-M+03F)one year	
A Expenditure		Expenditure	
Total (rent+feed/fodder +miscellaneous)		Total (rent+feed/fodder +miscellaneous)	
05/ increased @ Rs3.153+0.157=	3.310	05/ increased @Rs2.864+0.143=	3.310
B Income Sale of milk		Income Sale of milk	
3790liter /years		3790liter /years	
@ 150/-litre	3.56	@ 148/-litre	3.250
@ 153/-litre	3.640	@ 150/-litre	3.294

Table No-10 5th year scenario of economical dairy unit started with 06 buff/cows in Rural Rwp-Isb 2026

Dairy Buffaloes		Dairy cows	
Inventory		Inventory	
Adults in the milk		Adults in the milk	
6+3=09		6+3=09	
B.calves 06 growing		C.calves 06 growing	
A Expenditure		Expenditure	
Total (rent +feed /fodder+miscellaneous)		Total (rent +feed /fodder+miscellaneous)	
Increased by 5%		Increased by 5%	
(3.310+0.165)	3.475	(3.007+0.150)	
10% increase	0.347	10% increase	
	3.822		3.157
B Income	amount	Income	amount
Sale of milk	In	Sale of milk	In
12x9x305	million	11x9x305	million
@Rs150/-	32940	@Rs150/-	30195
@Rs/-	5.072	@Rs/-	4.529
..Two bulls sold @Rs0.350	5.105	..Two bulls sold @Rs0.350	5.589
	0.350		0.350
...FYM-sold one Trolley	5.455	...FYM-sold one Trolley	5.455
(or used in Agri:fields)	0.006	(or used in Agri:fields)	0.006

Table N0-11 Comparative market rates of Livestock Products -2022

S	Livestock Product	Rates (Rs)	April	May-	June	July	Sept-Oct
N		March				Aug	
o							
1	Fresh milk	130/-	135/-	140/-	145/-	150/-	160/-
2	Milk Processed packaged	140/-	145/-	148/-	150/-	160/-	163/-
3	Yoghurt	145/-	148/-	150/-	160/-	170/-	170/-
4	Meat with bones	700/-	750/-	76/-	780/-	800/-	800/-
5	Meat without bones	750/-	780/-	800/-	830/-	850	850/-
6	Mutton	1000/-	1100/-	1150/-	1200/-	1300/-	1300/-
7	Poultry meat	300/-	350/-	380/-	480/-	450/-	460/-
8	Poultry live broiler	215/-	218/-	230/-	240/-	280/-	285/-
9	Table eggs per dozen	120/-	140/-	160/-	180/-	220/-	240/-

Source :monthly price list of retail0r shops Rwp-Isbd –Rural area -2022

Table No 12 financial Analysis of the feasibility based on recent Estimates and project figures for next 2-3 years (06 Buffaloes)

Years	Particulars	Total Grass Expenditure (in millions)	Total income grass	Saving Margins
2022 first year	Dairy Buffaloes 06+B/calves	4.122	2.116	Nil Income received
2023 Second Year	Dairy Buffaloes 06+B/calves	2.974	2.96 Or 3.07	Nil
BREAK- EVEN				
2024 Third Year	5% increase over 2023	3.153	3.521	0.368
2025 Fourth Year	5 % increase over 2024	3.640	5.105	1.465
2026 Fifth Year	10% increase over 2025	3.822	5.455	1.633
Grand overall financial picture		17.711	19.157	3.466

This includes income of 1st and 2nd years as revised expenditure

11. Third years' Financial Picture (projected) for 2024

Again as understood the inventory of adult –buffaloes and 06 cows indicated crossed and impregnated and might given birth (which is recorded in fourth year)the growing b/calves

and c/calves (brought with the animals of these dairy animals in first year) are now growing (up to two years of age) hence we have to increase the gawala salary by 10% and feed and fodder, to at least 05%. The reinvestment /expenditure in third year of running this economical dairy Unit, as calculated/projected, appear as Rs 3.153 million PKRs for buffaloes Unit while this amount for cows appear as Rs 2.864 million PKRs.

The income from mainly the sale of milk over a production of target of 23790 litres in buffaloes' Unit while 21960 litre in cows 'unit' with a sale price of FGP of Rs 145/- to Rs 148/- per litre respectively would fetch Rs 3.51 million PKRs (buffaloes' Unit) and @ Rs 140/- to Rs 145/- per litre in cows Unit would fetch Rs 3.184 million, as detailed in the table No-07 and No-08 respectively.

12. Fourth years Financial picture (projected) for 2025 The inventory of adult buffaloes now would be 06+03=09 as B/calves were taken as M:F-50:50, while the growing male and female calves produced in 2nd and 3rd year, were growing (aged (2-1/2)) by the end of fourth year.

The reinvestment expenditure, as per record, reasonable calculations with an increase in the operational and other related costs, the total amount reinvested /spent would safely go to Rs 3.310 million, in buffaloes unit with a comfortable sale income of fresh milk @ Rs 150/- to Rs 153/- per litre would naturally give income (gross income) of Rs 3.563 millions in (i) and Rs 3.640 million in (ii) rate. Simultaneously the reinvestment /expenditure in cow unit as per detailed calculations) would appear to Rs 3.007 million and a safe gross income from sale of fresh milk with FGP @ (i) Rs 148/- and (ii) Rs 150/- per litre, the amount fetched will be Rs 3.250 million per (i) rate while Rs 3.294 million per (ii) rate, as detailed in table No-09.

Yet another sale income of 2-3 male b/calves now young bulls could also be sold and /or the male b/calves sold for replacement with new milking buffaloes (with calves), same in the case for cows.

13. The 5th years' Financial Picture (projected) for 2026

The 5th year financial picture amidst safe increases in operational costs (of up to 5%) the reinvestment/expenditure in buffaloes unit was safely calculated as Rs 3.822 million and a rewarding income specially on the sale of fresh milk over a targeted production of 32940 litres was projected to the tune of (i) Rs 5.105 million with a FGP of (ii) Rs 153 per litre together with sale of young calves /new adults / bulls and/or buffaloes replacement and FYM sale as per

prevailing rates of Rs5000 per trolley) .

14. An overall Financial Analysis of this feasibility

The total investment /expenditure (prevailing in first year) and projected for the coming second ,3rd,4th and 5th year (2025)with overall reinvestments, calculated reach at Rs17.711millions ,as compared to the total overall income (from sale income of fresh milk)and sale of 2-3 male-calves /mature bulls to the tune of Rs19.157 million ,resulting to an overall gross margin of Rs 3.466 million and yearly splitted margins of Rs 3.466 million and yearly splitted margins of Rs0.368,1.465, 1.633 million for the 3rd year ,4th and 5th year, respectively appearing in table No-12.

LITTLE DISCUSSION

The present effort of preparing a feasibility is an attempt for the stake holders based only on the whole sale Market Rates (WSMRs).

It is pointed out for the stakeholders to and Rwp-Isbd twin city traders ,that fresh milk rates per litre else where in the country are not alarming, as the author is in touch with the situation from Khyber to Karachi , the Fresh Milk Rates (FMRs) in Rural Multan was Rs 78-79 in March-April (2020) while the rates in the suburbs of Kasur , Choonian ,Chak Jhumra, Tandlian Wala , Samundri, Mandi Bahauddin(MBD), Jaranwala ,Khanewal , Sahiwal , Seikhupura ,Bhalwaal (Sargodha) and various Chakooks of Okara and Arifwala ,etc recorded on an average was Rs78-80/- per litre on an average for the years 2021 and 2022 (with an increase of not more than 05%in 2022)

The main reason behind such a comfortable rate dependent on low prices of green fodder (@Rs110-Rs120/- per 40 kgs and low cost of labour rates of gawala also who used to get Rs7000-8000/-p.m and most of the food ingredients(locally available).

This part of the country ,The Poto-har, is arid one and very less production of green fodder (accept in scanty agricultural fields) is grown but still livestock farmers are bound to purchase green fodder of the season from fodder sale points ,and feed their animal Concentrated feed specially wheat bran ,wheat straw and oil seed cakes are coster ,than lower and central Punjab areas.These are transported upstream. Still ahead farmers are looking such feed items on whole sale prices which is always helping in containing the price of feed

Message for Farmers

The message for livestock-farmers, dairy farmers and the beginner farmers /invests is that

- (a) Do not get discouraged with timely inflations „shooting up of feed and fodder prices, as well as live dairy animals and cost of transportation with utility bills as there are gross margins on milk production .
- (b) Always purchase feed-n-fodder on whole sale prices and deal with fodder producers
- (c) If possible get your own vehicle (carry, van, open ,large carrier ,mint truck etc (even on instalment basis)to save extra cost on transportation and share with nearby farmers.
- (d) Establish your own sale points to get better rewards.
- (e) Get your own herd developed through selection and low producers be replaced with good /better producers.
- (f) Always consult a qualified AHCSs Veterinarian and simultaneously get advice from a livestock Economics and Business Management expert, for better results.

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A BRIEF OVERVIEW OF COMPARISON OF TWO ANNUAL REPORTS OF VRI PESHAWAR (2020-22)

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ABSTRACT

This Research cum status article, presents the summarized overview, as a brief of history of five decades and recent set up of Veterinary Research Institute (VRI) Peshawar of two Annual Reports for the years 2020-21(July-June) and 2021-22 (July –June) stating the sustained work done, the developments with a recent picture of technical and supporting staff with achievements/progress made there in. The brief indicates three directors (BPS-19) working under the administrative control of a Director General (DG)(BPS-20), with 40 SROs,(BPS-18), two Deputy Directors (BPS-18) and 108 Research Officers (ROs), veterinary Officers and at least 800 supportive staff of administration and laboratories at HQs Peshawar and Regional and diagnostic Research centre at Swat (Belogram), Rattakulachi (D I Khan), Abbotabad, Kohat, Chitral as well as, with four centralized units at HQs namely (i) Centre of Microbiology and Biotechnology (CMB), (ii) Centre of Biological Production (CPB), (iii) Centre of Parasitology and Poultry Sciences and, (iv) Food and Mouth Disease Vaccine Research Centre (FMDVRC). The technical set up also includes Animal Nutrition Centre (ANC) Livestock Research and Development Station (LRDS) Surizai, LRDS-Paharpur, Dikhan, LRDS-lower Dir AZSRRI-Kohat, LRDS-Sawabi and Goat production Research Station (GPRS) Charbagh –Swat. The nutshell progress achieved indicates 35.977 dose of vaccines (millions) produced in 2020-21 and 43.547 dose of vaccines in 2021-22. It was reported that in these two years 33340 improved Cross Breed poultry birds were produced and disseminated to the farmer community numbering 26969 and 28109 while no of eggs produced were 91129 and 314270 for the period under report. The compound feed (as per economical formulation) was produced as 232.781 and 220.128 metric tons, with No of morbit material examined for disease diagnosis as 53682 and 54450 respectively. The adoptive Research studies were 164 and 114 undertaken with improved fodder seed production was 5382 and 5730 kgs for the reported years. The No of research articles published in local and international journal of repute were also reported. In international journals of repute were 40 and 35 including urdu publications as well. The training of DVM interness numbering 365 and 241 in each year under report while the research facilities of VRI were availed by 99 and 20 research fellows /scholars of various universities. Lastly the advisory services provided to farmers (at VRI HQ and in the field) numbering 32200 and 29075 respectively. This article ends with conclusions, of positive outcomes and frank recommendations for all stakeholders.

Keywords : VRI-, administrative set up, work done, Khyber PK, Peshawar, Pakistan

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INTRODUCTION

HISTORY AND BACKGROUND INTRODUCTION

Veterinary Research Institute (VRI) Peshawar was earlier established on 1956, the

-
1. Director Veterinary Research Institute, Peshawar
 2. Director General, Veterinary Research Institute, Pakistan
 3. Ex-Director General Veterinary Institute, Peshawar

Veterinary Research Institute (VRI) Peshawar was earlier established in 1956, then the Pakistan Animal Husbandary Research Institute (PAHRI) and worked under the Director Animal Husbandary Pakistan (DAH) Karachi and remained under Director AH(DAH) Lahore up to 6-8 years. With the dismemberment of One Unit, it was provincialized and new Administration and Research laboratories of VRI were established. Practical functioning with the approval of the Provincial Assembly, in the year 1972-73. In the early days up to 1978-79 the Director VRI (BPS-19) was supported with Senior Research Officers (SROs) (04)-BPS-18, Research Officers (ROs) (B-17) Supervisory, and 21 Research Assistants –(VCsR) –BPS-17, with the GOP –upgradation of professional graduate. The research work /laboratory work was mainly split into four Divisions namely (i) Animal Health (microbiology +Pathology and Bacteriology with tuberculosis), (ii) Livestock Production (Animal Nutrition, Reproduction and poultry Husbandary), (iii) Biological Production (vaccine production with media preparation and freeze drying units), (iv) The Division of Parasitology with hides and skin as operational but reorganized as Division of parasitology and poultry. One additional Division was created, the Division of Animal Bio –technology where Enzyme Linked Immunosorbent Assay (ELISA) testing is continued.

With the transfer of Livestock Research Institutes farm at Surizai, with Livestock Production and Breeding Farm at Hari Chand, merged under the Directorate of VRI, this was renamed as Livestock Production Research Deptts (LPRD), when the post of Director VRI was upgraded to the Director General Livestock Research (DG-LP-Research) in late nineties, five divisional Research stations were established earlier at Distt Sawat, Dhudhial (Hazara) Dikhan and later on in Kohat, Mardan and Chitral supervised by Principal Research officers (PROs) / Regional Directors

SUPPORTIVE SET-UP

Such a set up for Khyber PK was further supported, as per demands of sheep/goat farmers and excessive work on Livestock Productions Research Stations (LPRS) were established, as per approved PC-Is Redesignated as under:-

- (i) Center of Microbiology and Biotechnology (CMB), Peshawar,
- (ii) Center of Biological Production (CBP), Peshawar
- (iii) Centre of Parasitology and poultry (CPP) and
- (iv) Foot and Mouth Disease Vaccine Research Centre (FMDVRC), Peshawar

Additional livestock Research and Development Stations were established at (i) Pahar pur (DIKhan), (ii) Lower Dir ,Arid Zone, Small Ruminant, Research institute (AZSRRI) Kohat PRI-Jabba Mansehra ,LRDS- Sawabi and goat Production Research Station (GPRS) Charbagh,Sawat were established and are functional.

POSITION AS OF 2020-2021 ONWARDS

Technical staff position for the year 2020-21 showed 19 Principal Research Officers (PSOs) BPS-19 With two Directors (VRI and (ii) LR and D(BPS-19) supported with 40 SROs, (BPS-18),02 D% Directors (BPS-18) and 108 ROs (Research), Veterinary and two ROs Agriculture ,including

- Director VRI Peshawer
- Director General –VRI-Peshawer
- Ro-statistics.

Non-technical staff (Establishment ,Development and Finance Section included Office Assistants (18) , computer operators (19) senior clerks 20 and junior clerks (31) with NQs+Drivers.

PARA VET STAFF AND SUPPORTIVE STAFF

Para Vet staff as lab, supervision -13, Lab tech =12,Vetty Assits 10,AIT=05, Lab Assitts 49 Imam masjid ,telephone operator and boiler engineer (one each) Khadim Masjid - 02.with 06 store keepers (at HQs and Regional Centres).This category of staff also included tractor drivers (10). 39 office vehicle drivers (at HQ, plus Regional offices and Research stations and sufficient numbers of field workers (at regional Research Stations and Livestock Production Farms, with a feed mill for Production of feed) and fodder production for dairy animals (sheep/goat and poultry) or kept for egg production.

THE STATUS OF DIRECTORATE GENERAL ,VRI PESHAWAR

Although VRI as an organization, is not that huge entity, as compared to Punjab Province and Sindh but is a competent and better than other such organizations of Balochistan ,AJK and Northern Areas/GB as an institution worth visiting .

BUDGET POSITION

During the years under report the budget figers on regular side indicated 431.673 and 598.000millions PKRs for the [period 2020-21 and 2021-22 and in addition the ADP provision was 61.44 and 52.883 million respectively .

MATERIAL AND METHODS

This research cum status article was developed taking material from the following documents .

- i. Annual Report of VRI-Peshawar for the year 2020-21(173-pages)
- ii. Annual Report of VRI Peshawar for 2021-22 (170pages) since the research team of livestock Development foundation (LDF) ,a Regd NGO has been allowed to get access to the Govt. and semi Govt.,NGO officers for work done ,the progress made was not only observed but recorded ,in the presentation meeting of LDF at VRI-Peshawar on 4th Oct-2021, and follow up actions carried out.
- iii. Various Regional Centres Reports from Kohat , Swat ,DI Khan , Abbotabad, Chitral, lower Dir and others,were incorporated .

RESULTS AND DISCUSSION

1. As the mandate of this organization is based on the Key Performance Indicators (KPIs) , the following output ,as a cumulative progress/achievement ,compared for the years 2020-21 and 2021-22, Since the Research Various Regional centres Reports from Kohat ,Sawat , DI Khan, Dhadial Chitral and Dir (Lower) and others were incorporated for this organization is (a) to conduct Research for the control ,Prevention & eradication of Livestock & poultry disease..provide related diagnostic facilities (b) to develop & produce different biologics and reagents against major infectious /contagious epidemic disease of livestock and poultry.(c) to conduct Livestock production research covering Reproduction ,breeding ,management ,dairy production ,Animal nutrition ,fodder and forages (d) To formulation and production of compound animal feed and provision of analytical facilities for feed ,fodder ,dairy and animal by products and (e) to collaborate with universities and other institution in terms of provision of research facilities for post graduate students and internship for graduate and diploma holders which was done with enthusiasm and sustained effort .

2. Vaccinee Produced

As understood five major vaccine (prophylative), used for the endemic disease in Pakistan , namely (a)Haemorrhagic Septicaemia Vaccine (HSV), (b)Black Quarter vaccine (BQV), (c) Anthrax Spore Vaccine (ASV), (d) Entoro-Toxamia Vaccine (ETV) and (e) Foot and Mouth Disease Vaccine and New Castle Disease (NCDV) for Rani Khet disease in Poultry chicks + mature birds ,at large. The total number of dose produced were recorded as

35.977 and 43.547 million for the years 2020-21 and 2021-22 respectively, which fetched Rs 85.4 and Rs92.3 million PKRs for the reported years , respectively, as laid down in the table of KPI,below:-

3. Production of improved cross breed poultry and disseminated to the community

A total of 33340 were produced and disseminated to the local farmers community numbering 26969 and 28109 in the two years of duration .

4. No.of Eggs Produced :

The fertile eggs ,as understood used for NCDV production which numbered 91129 and 314270 in the two reported years.

5. Compound /Conc.feed Produced

Production of compound feed /coc feed (kgs) for animal Nutrition Research work vin the feed mil. was of 232.781 and 220.128 metric tons produced and utilized for livestock production Research Stations .This was far cheaper than the commercial feed available in the market.

6. Disease Diagnostic Laboratory work

A total of 53682 number of morbid samples received at VRI (HQ) laboratories (labs) as well as Regional Diagnostic labs were processed for disease investigation in the year 2020-21, while this number was recorded as 54450 for the year 2021-22.This indicated the confidence of farmers towards disease –control and VRI Peshawar response for diagnostic work.

7. Adaptive Research undertaken

Adaptive Research trials were in the fields of (a) disease,(b) Animal Health, (c) Livestock Production and (d) poultry Production and other (e) fodder seed production etc.Just to record these number of research Trials 164 and 114 in two different years, under Report .

8. Improved fodder ,seed Production

Improvements were made in seasonal green fodder production ,used with in the LR stations as well as the progressive farmers registered (Regd) with the organization ,as progressive fodder production Farmers (PFPFs) and progressive Livestock Production Farmers (PLPFs),thus agri sector is also benefiting .Thus huge amount of budget on improved seed for fodder production from abroad,will be minimized.

Table Showing Key Performance Indicators (KPI) at VRI Peshawar

S. No	Activities	KPI	
		2020-21	2021-22
1	No of doses of vaccine produced for prophylaxis vaccination of livestock and poultry fatal diseases (in millions)	35.977	43.54721
2	No of improved cross breeds, poultry birds produced	33340	26969
3	No of improved cross breeds, poultry birds disseminated to the community	91129	28109
4	No of eggs produced		314270
5	Formulation and production of compound animal feed (kg) on the basis of research trials	232781	220128
6	No of samples of various origin /organs processed for research and diseases investigation	53682	54450
7	No of adaptive research trialls undertaken	164	114
8	Improved fodder seed production (in kg)	5382	5730
9	No of research paper/ Urdu articles published for transfer of technology and awareness of farmers	40	55
10	No of DVM internees trained in practical professional training in livestock research discipline	365	241
11	No of Post-graduate research fellows from public sector universities availed the facilities and expert supervision	99	20
12	No of advisory services to livestock and poultry farmers	32200	29075

9. Literary Work

The authors feel satisfaction in jotting down these lines ,that the team of Researchers ,being fully aware of scientific publications, endeavoured 40 such publication in the year 2021-22 which is an encougaging gesture of research, with-in a short span of time towards literary work.During the presentation by the President, LDF books and PjLSc-Vol-XIII-No-13(2021), the interest of research showed up and a complete set of books +the volume was handed over to them then DG VRI and Director VRI for Library support.

10. DVM Internees Trained

As a scientifically integrated entity ,this organization both at VRI(HQ) and VRI-Regional Research and Diagnostic labs /Centres ,DVM-internees detailed by universities and Federal/Provincial Ministries financially supporting such fresh undergraduate for their INTERNSHIP,across gender, a total of 365 and 241 such candidates were benefitted in the reported years.

11. Post Graduate Research Work

Since the last four decades ,the facilities of VRI Pesahwar are generously being used for the researcher of various universities for their Thesis Research work at MSc

(Hons)/M.Phil, as well as PhD level in various disciplines of two domains of (a) Livestock Production and (b) Animal Health. The Research supervisors have always acknowledged and appreciation extended. There is list of Research work carried out, since way back in eighties. In the present endeavour 99 such studies were carried out in the year 2020-21 and 2021-22 (up to June-2022).

12. Advisory Services to Livestock and Poultry Farmers

This advisory service was extended in two prong approach.

- i. Farmers visiting VRI(HQs) and regional Diagnostic Centres (Kohat, Sawat, Mansehra, DI Khan, Chitral with Research stations (Kohat, Dir, Paharpur, and others)
- ii. During the visits of Researchers (PSOs, SROs, ROs, and/or VOs(R0) at the time of tour visits, farmers monthly gathering and/or at vaccination time. A total of 32,200 such services provided in the year 2020-21 and 29075 in the reported period of 2021-22. The split of such advisory services can be categorized as under:-
 - Eruption of new diseases (awareness and prophylaxis)
 - Prevailing seasonal disease (control and eradication)
 - Livestock Management Practices, Good Management Practices (GMPs) such as housing, feed-n-fodder and Marketing trends.
 - Breeding and breed improvement with Reproductive disorder
 - Use of different drugs and vaccines (as per AHCS and Animal Health Schedule (AHCSch))

LITTLE DISCUSSION

This organization, The VRI Peshawar, has produced researchers who were selected in the international scholarship programs, going through various tests such as (i) Technical subjects and (ii) TOEFEL and/or IELTS etc) and (iii) interviews for their higher educational pursuits of MSc/M.Phil and/or Ph.D studies, at various universities of repute, in US, UK, Australia, as well as China in early seventies and eighties while in recent years in nineties also in various Institutes.

- This organization produced Researchers who were selected in various universities as competent teacher, at home and abroad.

- Also VRI produced Researchers who were selected provincial and federal services ,Commissions (FPSC) on various job positions, with gender competence.
- Still VRI Researchers are supervisors for Masters /M.phil and Ph.D students for their thesis Research work being done, meeting deadlines.
- Collaborative work with Health Deptt,Pakistan Council for Scientific and Industrial Research (PCSIR) labs, the Agri: and livestock Universities together with NGOs and international organizations including QMG Branch of Remount Vetrenary and farm Core (RVFC) ,extending diagnostics facilities and supply of vaccines ,when available (as per demands) .

Based on above details work, summarized only for two years (2020-21 and 2021-22), it can be said that such an organization is a helping hand for farmers Community and with a mediocre to greater percentile contentedness in proving self-sufficiency in vaccines requirements , raw material used and earing good revenue generated (which is now a revolving fund), Saving a lot of budget which was otherwise required from PSDP, or ADP.

It is worth mentioning that the LDDDeptts of AJK and Balochistan had been /have been getting biologics/sera and vaccines ,as well as sending graduating students for the Thesis Research and lastly availing training facility for their DVM-Veterinary officers. One aspect of livestock Economics and Business Management (LEBM) is yet to be taken up, as some efforts are under way at the Federal Livestock Wing and projects under submission to which all provinces will-coordinate, specially the Researchers .

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

After going through whole the technical efforts ,being a provincial attached Deptt:of Khyber PK, it can be easily concluded that Researchers of this organizations are working with enthusiasm and high spirits .It is also concluded that this is brcoming and examplery Research Organization ,and still better outcome is foreseen.

- This organization is sustainably doing its job, as per its mandate ,in line with the polices (National Policies of Livestock sectors),Prior to 18th constitutional Ammendments - 2015-16 and recently Livestock-Farmers Friendly policies 2020-21)of earlier MINFAL

GOP and recently M/o National Food Securities and Research (MNFS and R) ,Gop Islamabad.

RECOMMENDATIONS

- There is only one graceful recommendation that researchers must be financially supported with and restoring 20% Research Allowance which was permissible for 3-4 decades ,to encourage young scientists , attracting new generation of DVMs, LPOs, and others to devote with still better dedications .
- One recommendation is always reiterated to livestock farmers /poultry farmers ,to get in touch with such organizations, for advisory and diagnostic services ,for Production of healthy ,safe and good quality animals ,milk, meat and eggs for our people and the surplus for export.

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Pakistan Journal of Livestock Sciences (pakjlsc.)
For Vol-XV, No.15 (2023)**

Arrival of Articles (Receiving)	January – May, 2023
Submission to Referees	June – July, 2023
Corrections expected	July – August, 2023
18 th & 19 th Editorial Board Meetings	July – August, 2023
Referring back to Authors	August – September, 2023
Final Acceptance	September – October, 2023
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Final printing (Pre-binding proof reading)	December, 2023
Corrected published	December, 2023
Post-printing reading (addendum if any)	December, 2023
Dispatch to clientele	December, 2023

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