

IMPACT OF LIVESTOCK IN UPLIFTING RURAL LIVELIHOOD

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ABSTRACT:- The global population is increasing by creating high demand for food and improved livestock and crop farming initiatives. The livestock sector plays a key role in boosting the national economy and improving the citizens' livelihoods. The study focused on the potential contribution of the livestock sector in uplifting livelihoods. Data were collected through face to face interview using interview schedule from 120 randomly selected livestock producers in Sub-District Jaranwala of District Faisalabad. Data showed that, livestock farming on small level was found widely adopted for income generation. More than 22% respondents earned a maximum income of more than Rs. 15000. Livestock have dominant effect on domestic needs fulfillment. Farmers were spending income on family chores, education, health and other aspects of life. Informal discussions and observation dictated the lower productivity than the potential and inadequate awareness and adoption of precise dairy farming practices. Livestock keepers demanded provision of location specific best management practices, training on livestock management and market aspects. Essential veterinary services enabling the livestock extension should be disseminated on the door step to boost productivity.

Key Words: Livestock Farming; Livestock Keepers; Millennium Development Goals; Livelihoods; Adaptive Capacity; Pakistan.

INTRODUCTION

Persistent hunger and malnutrition remain a major problem today in many parts of the world. According to Fan (2013) about 842 million people or one in eight people globally go to bed hungry every day. In addition, about 2 billion people suffer from "hidden hunger" or deficiency of essential nutrients like iron, vitamin A and zinc. On other hand, population of world is increasing at pace and it is anticipated that by 2050 it will reach to 9.6 billion (United Nations, 2013). It is expected that demand will increase and world need more food to feed

more mouths. More resources will be needed along with diversified strategies to support the dwindling livelihoods.

Crop farming is the major source of income in many countries like Pakistan, India, and Bangladesh. However, climate change, increasing cost of production, low productivity and reduced net gains are limited to support peoples' livelihoods. Livestock farming is also significant sector supporting the livelihoods of farmers in multiple manners. Livestock not only holds potential to be income generating source but also viable solution to poverty, malnutrition and

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hunger. About 1.3 billion poor people residing in developing countries are directly or indirectly dependent on livestock sector for their livelihood (World Bank, 2009; FAO, 2009). Benefits of livestock sector are multifaceted. Livestock holds the potential to reduce poverty, hunger and food insecurity through provision of quality food and income generating source. Shahid et al. (2013) extended the contribution of livestock towards income, transportation, drought power and also the source of renewable energy and fertilizer for the agriculture. Ultimate purpose of livestock rearing and livestock management practices is to earn income for the livelihood sustainability as income generated help in improving livelihoods (Butler et al., 2007). Ali (2007) presented that livestock is providing income to 675 million farmers around the globe having full dependency on livestock sector. Livestock is helping the rural at micro level for their uplift.

Livestock sector offers food (in the form of milk and meat). Food is the essential necessitate of human beings and food industry is at the top among the industries in the world (Khalil, 2007; IFCN, 2010). Food shortage is a big challenge being faced by the developing countries. Livestock products have a main contribution in fulfilling food requirement through protein and fats in milk and meat. It is documented that per capita daily Animal Protein Food (APF) prerequisite is about 27 g whereas in Pakistan, only 14.25g per capita are available. There is 48.7% shortage of protein which can be met through development of livestock and poultry sector (GoP, 2011). It is anticipated that demand of livestock products will be twice in developing countries in the

next 20 years, which will build the rapid growing of agriculture activities (Miller, 2001). Hence, to amplify the livestock production among livestock growers and to tackle food shortage and dwindling livelihoods, it is inevitable for livestock farmers to rethink and adopt site specific and advanced livestock production practices. In this context present study was conducted to investigate the potential of livestock in uplifting rural livelihoods.

MATERIALS AND METHOD

Study Area and Selection of Sample

The study was conducted at Faisalabad district which is currently subdivided into six tehsils namely Faisalabad, Faisalabad Saddar, Jarawala, Jhumra, Samundri and Tandlianwala. Almost in all the sub districts livestock is reared and denoted as one of the major income generating source. Multistage random sampling technique was used for the selection of sample. In first stage one tehsil (Jarawala) was selected using simple random sampling technique. There were total 57 union councils in selected tehsil. Out of the total 57 union councils, 55 were rural union councils while rests of the 2 were urban union councils. On second stage of sampling technique, considering the time constraints 3 union councils were selected using simple random sampling technique. From each of the selected union council, 2 villages were selected thereby making total 6 villages. On next stage, 20 livestock producers were selected from each selected village thereby making a total sample size of 120 livestock producers. A complete list of livestock producers was obtained

from the office of District Officer Agriculture and this list acted as sampling farmer supporting random selection of livestock producers.

Data Collection and Analysis

Study was quantitative and for the sake of data collection interview schedule was prepared as research instrument. After preparation, face validity of the instrument was checked from expert. In addition, pilot testing was also conducted. Instrument was pilot tested on 20 livestock keepers other than sample. After the validity and reliability assessment instrument was ready for the final data collection. Researcher personally conducted the face to face interviews. Livestock keepers were approached at their farms and homes. In addition, observations and informal discussions were also carried out for the data validation and triangulation. Collected data were analyzed by using Statistical Package for Social Sciences (SPSS). Considering the nature of data simple frequencies and percentages were determined. Mean and standard deviation were also measured for better comprehension.

RESULTS AND DISCUSSION

Data depicted that 45.8% livestock producers were falling in age bracket of 36-50 years (Table 1). One fifth respondents (20%) were of up to 35 years age implying reduced involvement of young farmers in agriculture and livestock keeping. Educational situation of area was not much good as about 31.7% farmers were illiterate. However, majority of them were old aged. Among the literate farmers only 3% farmers were educated above matriculation level.

Table 1. Demographic characteristics of the farmers

Demographics	Frequency (%)
Age (years)	
Upto 35	24 (20.0)
36-50	55 (45.8)
Above 50	41 (34.2)
Education	
Illiterate	38 (31.7)
Upto Primary (5 years schooling)	29 (24.2)
Primary to Middle (6-8 years schooling)	16 (13.3)
Middle to Matric (9-10 years schooling)	33 (27.5)
Above Matric (10+years schooling)	04 (03.3)
Land holding size (acres)	
Upto 4	68 (56.7)
5-6	39 (32.5)
Above 6	13 (10.8)
Tenancy Status	
Owner	94 (78.4)
Owner-cum-tenant	12 (10.0)
Tenant	14 (11.6)

Majority of the farmers was small farmers holding land of less than 12.5 acres. Overwhelming majority (89.2%) of farmers was small farmers possessing land less than 6 acres. Sound majority (78.4%) of livestock producer was owner of their lands where they were cultivating different crops according to their domestic demands.

Today, with the increasing needs, desire of getting more income is mounting. No wonder, capital is a key towards development and uplift of any domestic or commercial initiative. Among resource poor farmers' capital does matter a lot as they have rigid dependency on farming. Data depicted that all farmers were using livestock as income source completely or partially (Table 2). About 37.5% farmers declared livestock as full fledge income source while 62.5% farmers' mutually described livestock as income source but partially. These farmers were also connected with other businesses as well like crop farming and private business. Draught, transport and milk are the

most noteworthy income sources as resulting from livestock (Campbell et al., 2002). Ultimate purpose of livestock rearing and livestock management practices is to earn income for the livelihood sustainability as income generated help in improving livelihoods (Butler et al., 2007).

Domestic and commercial livestock farming was enabling farmers to earn more profit through selling the byproducts (milk, ghee and *dahi*) and marketing of animals. According to Freeman et al. (2008) income from livestock is significant element of household income in Southern Africa. In context of results, slightly greater than half respondents were adapting domestic as well as commercial livestock farming system. Moving forward, about 40.8% farmers were limited to the domestic farming system. During informal discussion and observation it was seen that poverty, limited resources and reduced adaptive capacity of the farmers were major reasons to resist their farming to domestic level. On the other hand, farmers adapting commercial livestock farming system were large farmers with strong family background and risk averse adaptive capacity.

Informal discussions were held with farmers to probe the realities and it appeared that on average

farmers were earning Rs. 5000-7000 for small farmers while for progressive farmers earning probed was greater than Rs. 15000. Major mode of earning was milk selling and marketing of animals. Quantitative data collected depicted that majority of farmers (28.3%) were earning monthly income from Rs. 7000 to Rs.12000 (Table 3). About 23.3% farmers were getting earning below Rs. 7000 while 22.5% were able to earn greater than Rs. 15000 being progressive farmers. It was observed that few small farmers were also included among the farmers earning greater than Rs. 15000 because of adoption of good farming practices. Income generation is endorsed by various researchers from the world like livestock is also assumed as safety deposit for crucial circumstances (Upton, 2004). Livestock is generating income for 675 million of farmers and 20 million farm families around the globe having dependency upon livestock (Ali, 2007). USDA (2014) highlighted the significant increase in income generation from livestock reporting 69% increase in average National Care Farming Initiative (NCFI) of UK in 2014, with higher milk prices expected in 2014 compared to 2013 and lower feed expenses. Similar increase is being

Table 2. Distribution of respondents according their income source

Major source	Frequency (%)
Livestock farming	45 (37.5)
Livestock and crop farming	57 (47.5)
Livestock and services	04 (03.3)
Livestock, crops and services	14 (11.7)
Nature of Livestock Farming	
Domestic	49 (40.8)
Commercial	10 (08.4)
Domestic and commercial	61 (50.8)

Table 3. Distribution of the respondents according to their monthly income from the livestock activities

Monthly gross income (Rs.)	Frequency (%)
Upto 7000	28 (23.3)
7001-12000	34 (28.4)
12001-15000	31 (25.8)
Above 15000	27 (22.5)
Total	120 (100)

forecasted by the Government of Canada (2014) for the livestock farmers.

Data also revealed that farmers were getting income from the livestock farming but of varied level because of geographical location, adoption of recommended practices, number of animals and breeds of animals (Table 4). For, instance, milk selling could be anticipated as major income source. One of the livestock producer quoted that "I am earning enough for my family uplift from milk marketing. Respondents also mentioned that Haleeb and Nestle were the major companies to purchase milk from their farms, which is more profitable".

Average mean 2.59 is clear notion towards role of livestock in uplift through income generation between average extents to high extent. Furthermore, 10% respondents were of the view that livestock is not having any impression in fulfillment of domestic needs. On contrary, 33.3% farmers documented maximum contribution in domestic needs fulfillment.

Livestock farming is assumed as business providing income to sustain the routine life. With the increasing

needs, demand is increasing. To fulfill increasing demand multiple source are essentials. Likewise, along with crop farming livestock farming was one of the viable sources to increase profit (Khushk and Hisbani, 2004).

Formal discussion revealed that livestock farming happened to be the source of empowerment particularly for the women in rural areas (Table 5a and 5b). Globally efforts are being made to enhance the women empowerment like Millennium Development Goals (MDGs) depict the notion of empowering women to reduce poverty and food insecurity. Livestock producer families got extra remuneration from income belonging to women relative to income belonging to man (Jensen and Dolberg, 2003). Especially empowerment is an issue in remote rural areas where livestock is working as source of empowerment playing role in achieving the MDGs through enhancing financial status and reducing poverty (Steinfeld, 2003). Livestock farming was strengthening family income by providing capitals in the form of selling of products, by products and living animals. However, inadequate market existence was perceived as plight during informal discussions with farmers. Fulfillment of food requirements through livestock farming was 3rd top priority of the farmers. Persis-

Table 4. Distribution of the respondents according to the income received from livestock farming, fulfilling their domestic needs

Response	Frequency (%)
To little extent	6 (5.0)
To some extent	11 (9.2)
To an average extent	15 (12.5)
To greater extent	40 (33.3)
To much extent	36 (30.0)
No	12 (10.0)
Total	120 (100)
<i>Mean ± S.D = 2.59 ± 0.058</i>	

Socio-economic indicators	Rank Order	Score	Mean ± SD
Empowerment	1	386	3.22 ± 0.080
Family income	2	382	3.19 ± 0.078
Food requirements	3	381	3.18 ± 0.085
To keep himself busy	4	360	3.00 ± 0.077
Education of the child	5	359	2.99 ± 0.076
Health	6	357	2.98 ± 0.080
Living standard	7	354	2.95 ± 0.074

Table 5b. Distribution of the respondents on the basis of contribution of livestock farming in these socio-economic aspects

Socio-economic aspects	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
Living standard	4 (3.3)	29 (24.2)	57 (47.5)	29 (24.2)	1 (0.8)
Education of the children	4 (3.3)	29 (24.2)	52 (43.3)	34 (28.3)	1 (0.8)
Empowerment	4 (3.3)	21 (17.5)	43 (35.8)	49 (40.8)	3 (2.5)
Family income	3 (2.5)	23 (19.2)	45 (37.5)	47 (39.2)	2 (1.7)
Health	4 (3.3)	31 (25.8)	53 (44.2)	28 (23.3)	4 (3.3)
Food requirements	4 (3.3)	26 (21.7)	40 (33.3)	45 (37.5)	5 (4.2)
To keep himself busy	1 (0.8)	36 (30)	48 (40)	32 (26.7)	3 (2.5)

ting food insecurity and under nutrition situation implies that livestock sector needs more improvement to cope these challenges not only on micro level but also on macro level. Generally speaking, results clarify the diversified application of livestock farming in strengthening livelihoods of the farmers.

CONCLUSION AND RECOMMENDATIONS

The study concluded that livestock production is integral towards development particularly in rural areas. Farmers owned livestock as one of the prime income generating source to support their uplift. Farmers were earning income in between Rs. 5000 and Rs. 15000 while in few cases income exceed Rs. 15000. This income was being spent on education, health, food requirements etc. Livestock appeared to play role in achieving Millennium Development Goals (MDGs) by improving empowerment and reducing poverty. However, socio-economic condition of farmers was found meager and need to be improved by enhancing their adaptive capacities. Livestock deem

to provide food to feed and money, serving as savings for rainy days, ceremonial utilization and empowerment to the whole family. Increased accessibility and availability of specific management facilities like artificial insemination can enhance the benefits. Livestock producer should be given an opportunity to get training on livestock management, livestock marketing and acquisition of relevant information from livestock facilitators. Livestock Extension services should be transformed to facilitation for the livestock keepers and facilitators must be equipped with latest information communication technologies (ICTs) for information dissemination.

LITERATURE CITED

- Ali, J. 2007. Livestock sector development and implication for rural poverty alleviation in India. *Livestock Res. Rural Development*, 19(2): 245-257.
- Butler, S.J., J.A. Vickery and K. Norris. 2007. Farmland Biodiversity and the Footprint of agriculture Science, 315(5810): 381-384.
- Campbell, B.M., S. Jeffrey, W.

- Kozanayi, M. Luckert, M. Mutamba and C.S. Zindi. 2002. Household livelihoods in semi-arid regions: Options and constraints. Indonesia: Center for International Forestry Research, 144p.
- Fan, S. 2013. IFPRI's 2013 Global Food Policy Report. International Food Policy Research Institute (IFPRI) March 12, 2014 (Available on www.ifpri.org).
- FAO. 2009. State of Food and Agriculture (SOFA). Livestock in the balance. FAO, Rome, Italy.
- Freeman, H.A., S. Kaitibie, S. Moyo and B.D. Perry. 2008. Designing livestock interventions for emergency situations in Southern Africa. ILRI Brief 1. Nairobi (Kenya): ILRI.
- GoP. 2011. Pakistan Statistical Year Book. Federal Bureau of Statistics. Statistical Division. Government of Pakistan. p. 15.
- Government of Canada. 2014. Canada's farm income forecast for 2011 and 2012. (Available at <http://www.agr.gc.ca/eng/about-us/publications/economic-publications/alphabetic-listing/canada-s-farm-income-forecast-for-2011-and-2012/?id=1328906101616> verified on September 16, 2014).
- International Farm Comparison Network (IFCN). 2010. Status and trends in milk production worldwide, A summary of results from the IFCN Dairy Report 2010, 1-6. (Available at <http://www.ifcndairy.org>).
- Jensen, H.A. and F. Dolberg. 2003. A conceptual framework for using poultry as a tool in poverty alleviation, Livestock Res. Rural Development, 15(5) [online].
- Khalil, J.K. 2007. Food security with special reference to Pakistan, HEC, Islamabad, Pakistan. 1: 1-202.
- Khushk, M.A. and S. Hisbani. 2004. Rural women at work. The Daily Dawn, Islamabad, Pakistan.
- Miller, B.A. 2001. Rights to Livestock. In: Quisumbing, A.R. and Meinzen-Dick, R.S. (eds.). Empowering women to achieve food security. Policy Brief 4 of 12. Focus 6. International Food Policy Research Institute, Washington DC.
- Shahid, A., A. Saghir, I. Ashraf and S. Ashraf. 2013. Livestock sector as income source to mitigate energy crisis, with the emphasis on Pakistan. Global Veterinaria, 11(6): 701-707.
- Steinfeld, H. 2003. Economic constraints on production and consumption of animal sources foods for nutrition in developing countries. J. Amer. Soc. Nutri. Sci. 133(1): 4054-4061.
- United Nations. 2013. Department of Economic and Social Affairs, Population Division. World Population Prospects: The 2012 Revision, Key Findings and Advance Tables. Working Paper No. ESA/P/WP. 227p.
- United States Department of Agriculture (USDA). 2014. Farm Business Income. Available at <http://www.ers.usda.gov/topics/farm-economy/farm-sector-income-finances/farm-business-income.aspx> verified on September 16, 2014).
- Upton, M. 2004. The role of livestock in economic development and poverty reduction. PPLPI. Working Paper No. 14: 1-40.
- World Bank. 2009. Minding the stock: Bringing public policy to bear on livestock sector development. Report No. 44010-GLB.

The World Bank, Washington
D.C., USA. (Available at www.anarb.it/Bruna2004/inglese/Presentazioni/papers/kebede.pdf).

AUTHORSHIP AND CONTRIBUTION DECLARATION

S. No	Author Name	Contribution to the paper
1.	Mr. Junaid Alvi	Conducted research
2.	Mr. Ijaz Ashraf	Conducted research
3.	Mr. Khalid Mehmood Ch	Conducted research
4.	Mr. Muhammad Iftikhar	Conceived the idea, Methodology and Write up
5.	Mr. Saleem Ashraf	Data entry, Statistical Analysis, Write up

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