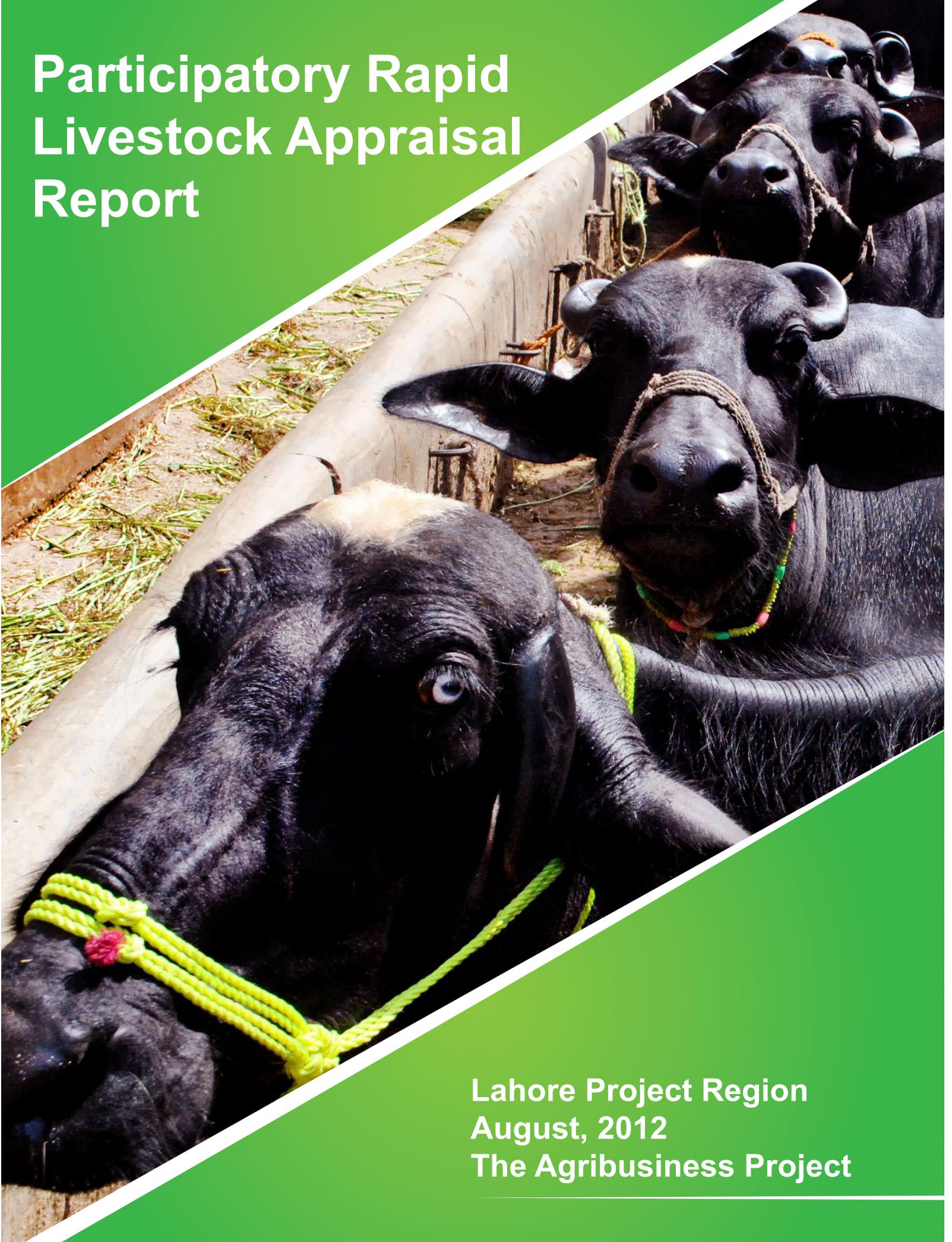




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Participatory Rapid Livestock Appraisal Report



Lahore Project Region
August, 2012
The Agribusiness Project



Acronyms

ASF	Agribusiness Support Fund
FAO	Food and Agriculture Organization
FGD	Focused Group Discussion
GDP	Gross Domestic Product
L&DDD	Livestock and Dairy Development Department
LPR	Lahore Project Region
NGO	Non-Government Organization
PRLA	Participatory Rapid Livestock Appraisal
TAP	The Agribusiness Project
USAID	United States Agency for International Development

Disclaimer: This Participatory Rapid Livestock Appraisal report of Lahore Project Region is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of The Agribusiness Project (TAP) and do not reflect the views of USAID or the United States Government.

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Executive Summary

The Agribusiness Project funded by USAID Pakistan is being implemented by Agribusiness Support Fund (ASF) in collaboration with International and national partner organizations. This five years project commenced on tenth November, 2011 and aims at increasing competitiveness and productivity of horticulture and livestock sub-sectors in Pakistan. The overall goal of the Project is to support improved conditions for broad-based economic growth, create employment opportunities and contribute to poverty alleviation through increase in competitiveness of horticulture and livestock value chains in partnership with all stakeholders. During the first year of the project, a preparatory program was undertaken to gauge the potential of the sub-sector and to prioritize value chains for various project regions including the Lahore Project Region. Findings from the Participatory Rapid Livestock Appraisal (PRLA) will enable the project to identify and prioritize livestock value chains, opportunities, constraints and state of the business development services to provide required basis for focusing project interventions.

Within the framework of the cluster and value chain approach, a two-pronged approach was adopted, first preparation for PRLA exercise in the field and second collection secondary data and development appropriate tools for quantification of factors to be measured on a scale for ranking/prioritization. This report pertains to work completed based on both secondary data and primary appraisals of livestock sector.

The PRLA methodology provides for probing, analysis and validation of information as they unfold during the field work. Seven factors were applied for the quick analysis of the sector. These include; (i) extent of employment generation; (ii) commercial worth; (iii) percentage of small farmers associated; (iv) women involvement; (v) households associated with the value chains; (vi) understanding growth potential; and (vii) vulnerability of the concerned value chains. Covering 50% of the districts, the exercise was undertaken in the randomly selected settlements/villages within each cluster/region. Each focus group consisted of 10-15 stakeholders, a representative sample of sector, whereas 2-3 FGDs were carried out in each district.

Prior to the primary data analysis, an appraisal of the livestock subsectors was conducted based on the secondary data available to develop objective criteria for the prioritization of the subsectors within livestock milk, meat, byproducts and fisheries value chains. The indicators used for analysis included i) Growth of the subsector on provincial (Punjab) level in past five years; ii) Pakistan share in the world production; iii) Punjab share in Pakistan; iv) Share of Lahore Project Region in Punjab; v) Productivity Gap.

As per analysis on the basis of secondary data, Pakistan's share in world production was 4.82% in milk, 2.17% in beef, 3.13% in mutton meat, 0.24% in fish, 17.91% in buffalo hides, 1.93% in cattle hides, 4.93% in goat skins and 1.85% in sheep skins. Punjab contributes 63.01% to the national milk production. In addition, Punjab shares 49.17% beef, 59.31% mutton, 38.19% fish, 55.14% buffalo hides, 50.92% cattle hides, 64.51% goat skins and 53.26% sheep skins to the total production on national level. The share of Lahore Project Region in Punjab was 6.12% for milk, 7.83% for beef and 9.51% for mutton. Fisheries contributed 25.40% to the total production on provincial level. Buffalo hides made 23.11%, cattle hides 24.52%, goat skins 7.72% and sheep skins 54.91% of the Punjab production.

Among livestock value chains, fisheries showed highest growth of 4.45% in Punjab during past five years followed by cattle hides with 3.70% growth rate. Beef meat had a growth rate of 3.33%. Milk production showed growth of 3.23% but this increase was mainly due to the increase in the number of animals and not increased production per animals. Buffalo hides, goat skins, mutton meat and sheep skin had a growth rate of 2.99%, 2.67%, 2.13% and 1.18% respectively.

Primary data for Lahore Project Region was collected through Focused Group Discussions in different districts through 11 FGD's involving all groups of stakeholders within the value chains. Livestock and fisheries value chains were then analyzed and prioritized using grid analysis.

On the basis of the analysis, milk ranked highest on the priority index with 6.45 points, followed by meat at 4.62 points. As a part of the PRLA exercise the analysis and ranking of potential priorities and constraints in all value chains, were carried out during FGDs using paired ranking technique. Better veterinary services, chiller unit, credit facilities and breed improvement, inconsistent power supply and improved technology has been identified as major constraints in the value chains.

Further more, an assessment of the market linkages and the services provided was also carried out. Strength of the market linkages was determined by the share of produce in that particular market and cost of transportation. The input suppliers, middlemen and market agents were identified as the strongest links among all stakeholders across the value chains. NGOs and farmer's associations providing technical assistance in the form of capacity building and trainings were among the medium strength linkages. Government institutions such as L&DDD department and banks were among the weakest linkages.



Introduction

Background

The Agribusiness Project funded by USAID, is being implemented by Agribusiness Support Fund (ASF) in collaboration with International and national partner organizations. This five years project, commenced on tenth November, 2011 and aims at increasing competitiveness and productivity of horticulture and livestock sectors in Pakistan. The overall goal of the Project is to support improved conditions for broad-based economic growth, create employment opportunities and contribute to poverty alleviation through increase in competitiveness of horticulture and livestock value chains in partnership with all stakeholders.

The Agribusiness Projects objectives are to: i) To strengthen the capacity in horticulture and livestock value chains to increase sales to domestic and foreign markets; ii) Strengthen capacity of smallholder and enterprises to operate autonomously and effectively; and ; iii) Increased agriculture/livestock efficiency and productivity through adoption of new farming techniques and technological innovations among targeted beneficiaries. Project activities encompass focused technical and capacity building assistance to upgrade and strengthen capacities in the priority value chains in both livestock and horticulture sectors; and a national cost sharing grants program offering a wide range of customized assistance to key players within the priority value chains.

During the first year of the project, a preparatory program was undertaken to gauge the potential of the sub-sector and to prioritize value chains for various project regions including the Lahore Project Region. PRLA is a short cut yet efficient method for data collection. It is a methodology for action research that uses a range of techniques and plays an important role in probing, developing, analyzing and using indigenous knowledge as a foundation from which to build more productive, valid and sustainable platform for the field work. Findings of the PRLA will enable the project to identify and prioritize livestock value chains, opportunities, constraints and state of the business development services to provide required basis for focusing project interventions.

The livestock sector is broad and covers highly diverse agro-ecological, social and economic dimensions across countries, regions and continents. In Pakistan, livestock is an integral component and considered as the backbone of the agriculture sector, as in any other agricultural economy. The livestock accounts approximately 55.1% of the agriculture value added and 11.5% to the Gross Domestic Product (GDP). Almost 35-40 million rural households are dependent on livestock for their livelihood, deriving 30-40% of their income from livestock. The primitive state of infrastructure and technology catalyzed by the limited availability and high cost of inputs has halted the growth of a polymorphic, high value livestock sub sector that, if driven in the right direction, can contribute towards food security, import substitution, export led growth and poverty alleviation through employment generation. Pakistan has immensely large livestock resources and there is need to exploit and utilize these resources for the substantial growth of the sector. There is a need to focus on understanding productivity gaps, factors blocking development and expansion of livestock value chains, to identify hurdles causing bottlenecks, uncertainties and inefficiencies that hinder competitiveness. Interventions are required across all nodes of the livestock value chains, especially value addition, processing and marketing in order to increase the competitiveness and enhance capabilities of value chain operators to respond to domestic, regional and international markets.

The reports articulate for each region separately to enable better targeting and focusing project interventions. This report covers the project region of Lahore. Within the framework of the cluster and value chain approach, a two-prong approach was adopted, first preparation for PRLA exercise in the field and second to collect secondary data and develop appropriate tools for quantification of factors so that it can be measured on a scale for ranking/prioritization. This report pertains to work completed based on both secondary data and primary appraisals of Livestock sub-sector.

Objectives

The objectives of PRLA exercise were to a) identify and prioritize the key livestock value chains in terms of growth potential and capability to benefit as many stakeholders across the value chains b) Identify relevant constraints impeding the realization of opportunities c) assess current state of the extension services to the livestock farmers and d) explore linkages of key livestock stakeholders with the local and national markets.

The PRLA was conducted with a view to prepare the stage for focusing project intervention as well as for the project baseline and value chains benchmarking studies. The PRLA results will enable the project to prioritize value chains (validating the cluster approach), set benchmarks, and support establishment of a database to generate primary data on key indicators to be maintained and updated during the course of project implementation and afterwards supporting the planning, monitoring, evaluation and communication functions of the project.

Methodology and Approach

The consultant(s) assisted the project staff in undertaking a strategic exercise for identification and prioritization of the value chains to prepare a stage for the baseline study and in close consultation with the project management adopted the following methodology to undertake the PRLA exercise.

Desk Review and Study Matrix

The PRLA team, within the framework of the cluster and value chain approach, reviewed the existing data, including the secondary data on the livestock sector, published reports and developed objective criteria for prioritization of value chains within the livestock subsectors i-e, Dairy, Meat, Livestock by products value chains. Following sources were used to collect secondary livestock data for Lahore region;

- i) Federal bureau of statistics
- ii) Pakistan Livestock census 2006 database
- iii) FAO Database
- iv) Livestock and Dairy Development Board
- v) Directorate of Livestock and Dairy Development, Government. of Punjab
- vi) Economic Survey of Pakistan.
- vii) Information from past research papers and reports from various sources.

The PRLA team, prior to inception of the field work, developed approach and methodology for the study based on international best practices. The methodology focused on quantification of factors, by assigning appropriate weights and scales, so as to contribute to ranking and selection of the priority value chains based on a seven factored grid analysis that included (i) extent of employment generation; (ii) commercial worth; (iii) percentage of small farmers associated; (iv) women involvement; (v) households associated with the value chains; (vi) understanding growth potential; and (vii) vulnerability of the concerned value chains.

Data Collection Tools and Techniques

The PRLA team developed and pre-tested tools for undertaking the rapid appraisal exercise in project regions. These tools included;

- i) A five factored grid analysis matrix
- ii) Paired ranking matrix for opportunities and constraints
- iii) Venn-diagrams for mapping market linkages and service providers:

These tools were pre-tested in the field before being applied to collect primary data by holding Focus Group Discussions (FGDs) with selected groups of relevant stakeholders such as livestock farmers, inputs suppliers, processors, traders, retailers and service providers. Later the data collected through FGDs was verified through validation workshops.

Sample Size

The PRLA exercise was undertaken in all project regions to validate production clusters and establish priority value chains on a regional level. 2-3 FGDs were facilitated and conducted in randomly selected settlements/villages within each cluster/region, covering approximately 50% of the districts in each region. A group of 10-15 stakeholders related to the livestock value chains participated in each FGD.

Staff Orientation and Pre-testing of Tools

The PRLA team designed and co-facilitated a two-step training workshop comprising the orientation of the project staff regarding the use of pre designed tools, FGD facilitation & data collection techniques to be used in the field; and a real pre-testing field exercise followed by a debriefing session to help understand and discuss the constraints faced during the exercise in order to revise and improve the tools and techniques.

Primary Data Collection

11 FGDs were organized and facilitated by trained project staff in randomly selected clusters from within 07 districts of Lahore Project Region. The participants of FGDs that represented stakeholders from each node across the livestock value chains selected and prioritized value chains through mutual consensus during group discussions that were held and facilitated by the project teams.

Backstopping and Monitoring

The consultants provided a continued coaching and backstopping support to the project staff during orientation, pre-testing and PRLA exercise in project target regions.

Data Analysis and Reporting

The primary data gathered via the field investigations through observations and FGDs was recorded using pre designed tools and later reproduced in tabulated form using MS Excel sheets. The final analysis was done by applying statistical tools to the primary data and shown in the form of bar graphs and tables to provide a highlighted outlook on the weaknesses and strengths of the livestock value chains.



Appraisal of Livestock and Fisheries Value Chains based on Secondary Data

Data collection and mining

The secondary data for the livestock sector was collected from various sources mentioned in the desk review and study matrix. The USAID's Pakistan livestock database 2006 and Pakistan livestock Census 2006 data were used as prime source (since these were the only two sources providing livestock data on district level for all four provinces) and using projections a timeline data was obtained.

Overall analysis of Livestock and Fisheries value chains

Livestock occupies a unique position in the socio-economic development of Pakistan. It also plays an important role in the rural economy as supplementing family incomes and generating gainful employment in the rural population, particularly among the landless labourers, small and marginal farmers and women. About 30-35 million rural population is engaged in livestock raising, having 2-3 cattle/buffalo and 5-6 sheep/goat per family which help them to drive 30-40 per cent of their income from livestock.

Dairy and meat sector is a considerable major sector of livestock. Livestock contributes approximately 55.1 per cent to the agriculture value added and 11.5% to the national GDP during 2010-12. Gross Value Added of the livestock sector at constant factor cost has increased from PKR 672 billion (2010-11) to PKR 700 billion (2011-12) showing an increase of 4.04 per cent as compared to previous year which was 3.97%. (Source: Economic survey of Pakistan 2011-12). The projected data was analyzed using tabulation and basic statistical tools such as linear regression to come up with final scoring on the basis of seven factored grid analysis (Table1).

Indicators	Milk	Beef Meat	Mutton Meat	Fish	Buffalo Hides	Cattle Hides	Goat Skins	Sheep Skins
Percentage Growth	3.23%	3.33%	2.13%	4.45%	2.99%	3.70%	2.67%	1.18%
Pakistan Share in World	4.82%	2.17%	3.13%	0.20%	17.91%	1.93%	4.93%	1.85%
Punjab share in Pakistan	63.01%	49.17%	59.31%	38.19%	55.14%	50.92%	64.51%	53.26%
Lahore Region share in Punjab	6.12%	7.83%	9.51%	25.40%	23.11%	24.52%	7.72%	54.91%
Productivity Gap*	60.92%	80%	89%	99.98%	69.61%	85.30%	83.00%	92.09%

Source: FAO Database

Four livestock value chains that were analyzed on the basis of secondary data include:

- i) Milk value chain
- ii) Meat value chain (inclusive of beef, meat & mutton meat)
- iii) Livestock byproducts value chain (inclusive of Buffalo hides, cattle hides, goat skin and sheep skin)
- iv) Fisheries value chain (primarily inland fisheries or aquaculture)

The analysis on the basis of secondary data gave a broader and comparative outlook of the livestock value chains at regional and national levels and helped understand the glitches and potential within these value chains. The analysis showed growth of livestock products and by products and inland fisheries in Punjab and Pakistan over the past five years, Pakistan's share in world production, Punjab's share in national production and Lahore Project Region's share in province.

* Pakistan's yeild versus average World yeild.

Analysis of Milk Value Chain

Milk is the single most important livestock product. According to FAO statistics, production in Punjab showed a steady growth over the past few years in (Figure 1), but this increase is attributed to the increase in number of milking animals and not due to increase in yield per animal.

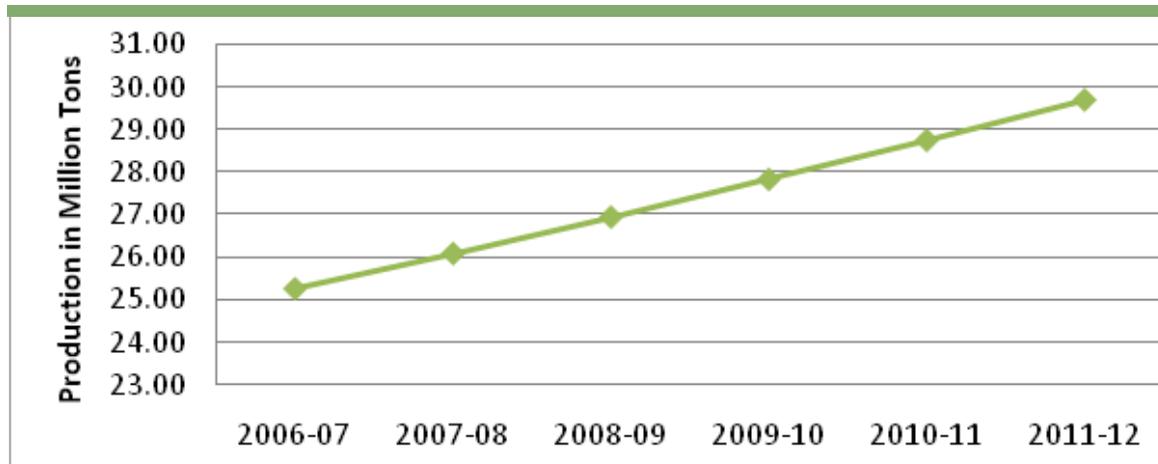


Figure 1: Growth index of milk production in Punjab
Source: Extrapolation from FAO and Ministry of Food and Agriculture data

Punjab contributes 63.01% to the national milk production. The share of Lahore Project Region in Punjab was 6.12%. Among Lahore Project Region districts, Kasur is the highest milk producing area with an annual milk production of 4,091,215 liters, followed by Pakpattan and Sialkot adding 2,789,987 and 2,494,093 liters to the region's annual milk production. Medium to high yielding districts include Sheikhpura, Lahore and Gujrat with annual milk production of 2,383,745, 2,286,011 and 2,231,833 liters, respectively.



Analysis of Meat value chain

Meat industry in Pakistan is developing these days. The export of meat (beef, mutton, and camel) has increased from \$ 108.54 million (2010-11) to \$123.61 million in 2011-12 showing an increase of 13.9 percent. Dairy animals are also being used as beef animals after completion of its productive years. Male calves of dairy animals and dairy bulls when no further required for breeding purposes are also utilized for beef purposes.

Meat sector hasn't achieved its potential amongst the livestock value chains in Pakistan primarily due to nonexistence of breeds specific to meat production. Further, there is no trend of fattening animals for meat purpose. However, analysis on the basis of secondary data showed that over the past few years there had been an increase in the meat production due to the ever increasing demand in the regional and national markets for the protein from animal origin.

Meat is an ignored and rather underdeveloped sector amongst the livestock value chains in Pakistan primarily due to non-existence of breeds specific to meat production. Further more, there is no trend of fattening animals for meat purpose. However, analysis on the basis of secondary data showed that over the past few years there had been an increase in the meat production due to the ever increasing demand in the regional and national markets for the protein from animal origin.

Table 2 and 3 below shows the share of Punjab province in national beef and mutton production. Moreover, the data also shows share of Lahore Project region in Punjab

Table 2: Punjab's Share in Pakistan on beef production

	2006-7	2007-8	2008-9	2009-10	2010-11	2011-12	Average	% Share
Punjab Share	263,957	272,897	282,147	291,710	301,604	311,837	287,359	49.17
Region Share								7.83

Source: Livestock Census 2006 (Calculated from number of slaughtered animals on the basis of yield per carcass)

Table 3: Mutton meat share of Punjab in Pakistan

	2006-7	2007-8	2008-9	2009-10	2010-11	2011-12	Average	% Share
Punjab Share	335,537	342,733	350,102	357,647	365,374	373,287	354,113	59.31
Region Share								9.51

Source: Livestock Census 2006 (Calculated from number of slaughtered animals on the basis of yield per carcass)

Punjab contributes 49.17% to Pakistan's annual beef production and 59.31% to total mutton production. Lahore Project Region holds a share of 7.83% in beef and 9.51% in mutton production in Punjab. Within Lahore Project Region, Lahore ranks as the highest meat producing district with an annual production of about 134.72 thousand tons of beef and 35.98 thousand tons of mutton. Gujranwala is the second highest in terms of meat production with 31.72 thousand tons of beef and 8.47 thousand tons of mutton produced every year.

Analysis of Livestock byproducts value chain

Livestock byproducts, especially hides and skins, had always been ignored despite their importance in the international market. Lack of awareness and absolute absence of proper handling equipment and techniques result in high losses every year. There is huge potential for livestock byproducts in domestic and international markets.

Due to limited availability of relevant data on district level, the number of hides and skins were calculated against the number of animals slaughtered every year and hence the actual losses during handling are not evident in this analysis. An overview of the growth of livestock byproducts is shown in Figure 2 below.

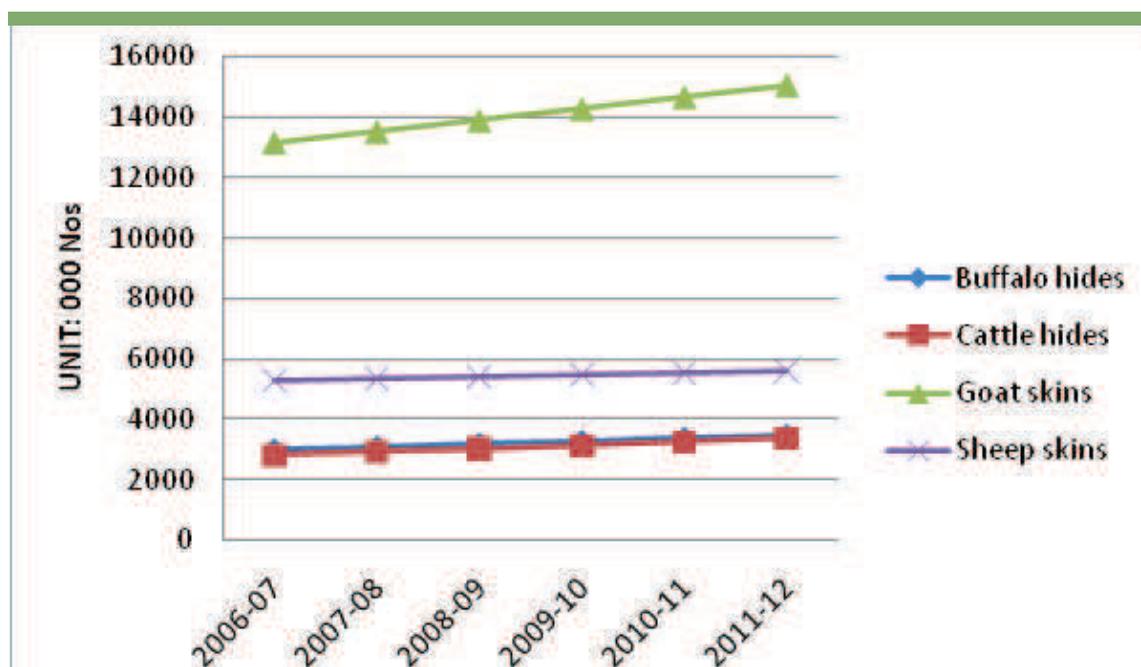


Figure 2: Growth index of Livestock byproducts in Punjab
Source: Extrapolation from FAO and Ministry of Food and Agriculture data

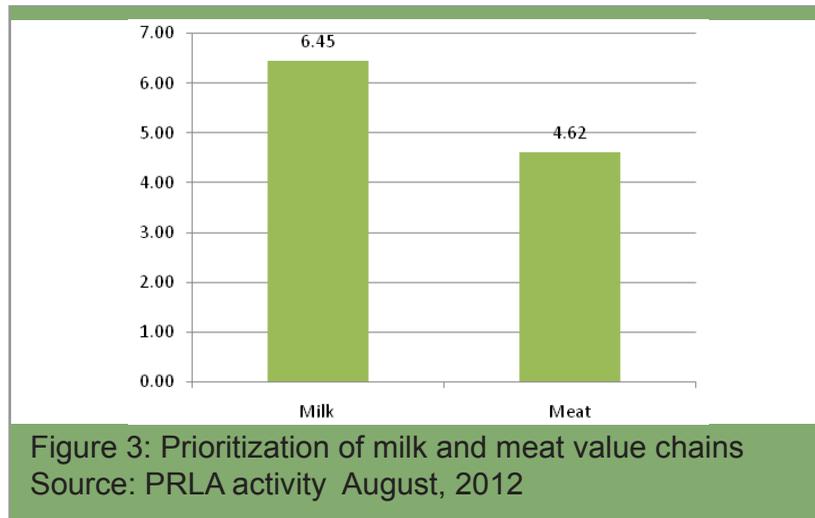
Analysis of Fisheries value chain

Inland fisheries or aquaculture being considered an expensive business requiring land, excavation, expensive pumps for oxygenation and formulated fish feed could not gain much popularity and momentum as a viable value chain in Pakistan. Statistical analysis on the basis of secondary data showed that the growth rate of fish production declined by 6% in Pakistan over past decade. Pakistan has only 0.24% share in the world's total inland fish production and Punjab contributes 38% to the national inland fish production. However, within Punjab, Lahore Project Region's share is at 25.40%. It is obvious that there is high potential of inland fisheries with proper interventions, in this particular region.

Appraisal of Livestock Value Chain based on Primary Data

Selection and prioritization of the value chains

This process was carried out to identify the value chains that offer most promising prospect for economic growth and poverty alleviation through employment generation. It was based on the review of the key issues that have an impact on the development of the livestock value chain and the capacity of a given region to produce and market livestock products and byproducts in the domestic and international markets. The choice of the value chains was further refined by applying priority criteria, weighting their relative importance and ranking on score sheet based on the composite index that was calculated on the basis of seven factors used in the grid analysis. A graphical illustration of the summarized overview of prioritization is shown in Figure 3. As the prioritization index shows, milk has the highest priority index of 6.45 points scored, while meat scored priority index of 4.62 points.



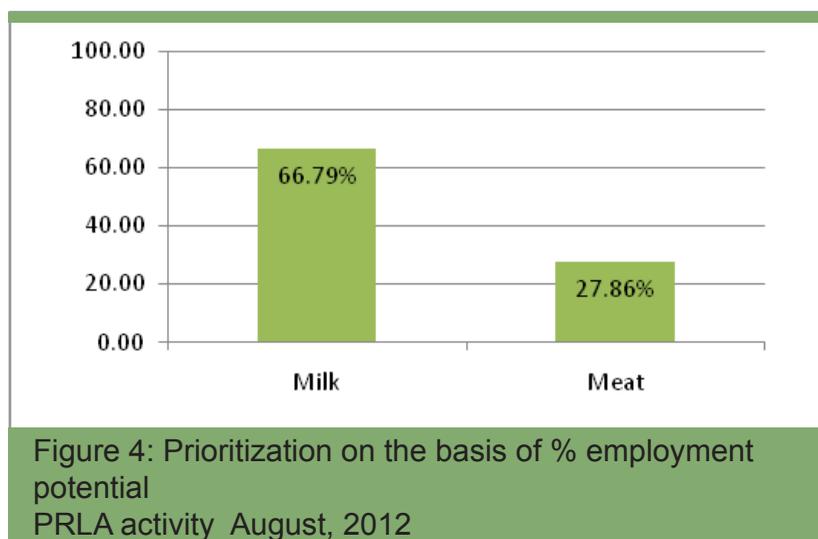
Factor wise Prioritization of the Value Chains

Ranking of the livestock value chain was carried out on the basis of seven factors discussed below.

Prioritization on the basis of percentage employment potential

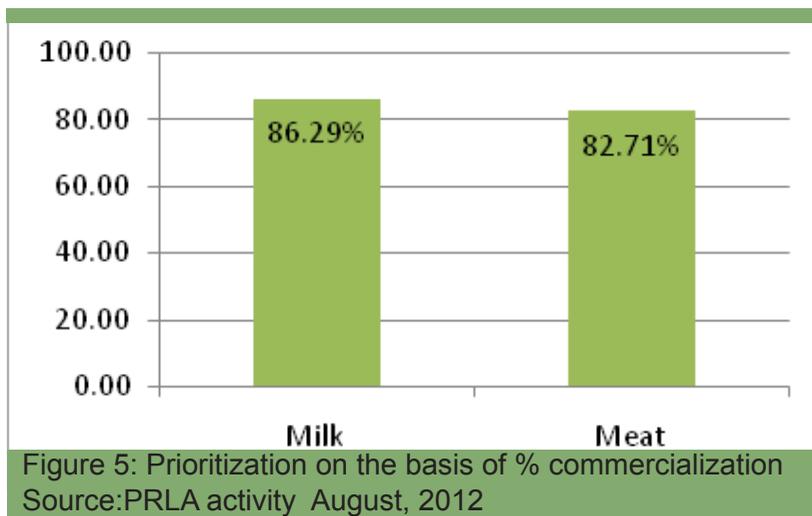
Among all livestock value chains, milk has the highest potential of 66.79% for that employment generation while meat value chain has ability to create 27.86% employment. It is important to note milk value chain involves more labor force due to the efforts required for feeding, management and milking of the animals and post production handling of the milk as compared to any other livestock value chain.

Prioritization of livestock value chain with regard to its ability to create employment is shown in Figure 4.



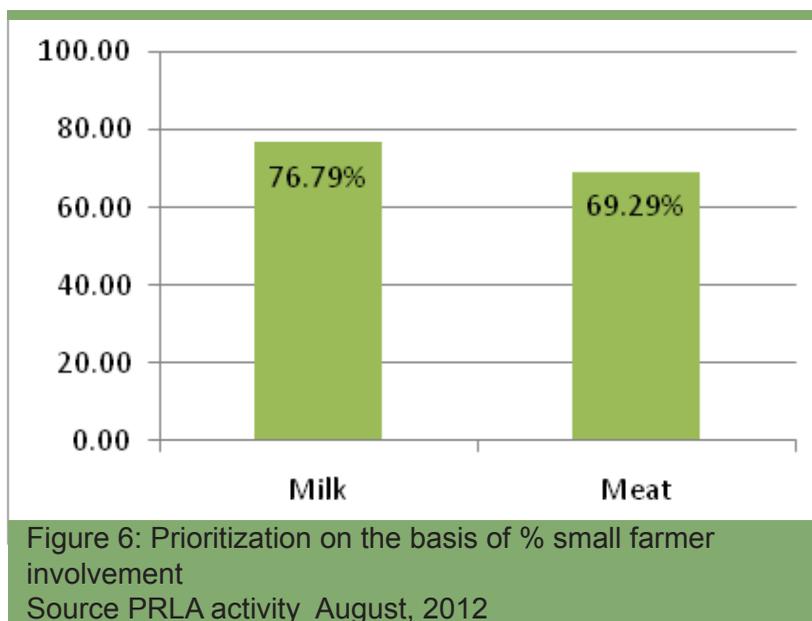
Prioritization on the basis of percentage commercialization

Commercialization can be described as the percentage of the product that is marketed. Milk is 86.29% commercialized, the reason being that animals raised for meat purpose or culled are sold in the market and slaughtered. Milk, due to its perishable nature and traditional use in different hot and cold beverages, is used for domestic consumption and therefore showed a lower percentage as regard to commercialization in comparison to other livestock value chain. In Lahore Project Region meat scored 82.71% on the index of commercialization. Depicted below is an overview of livestock value chains with reference to percent commercialization (Figure 5).



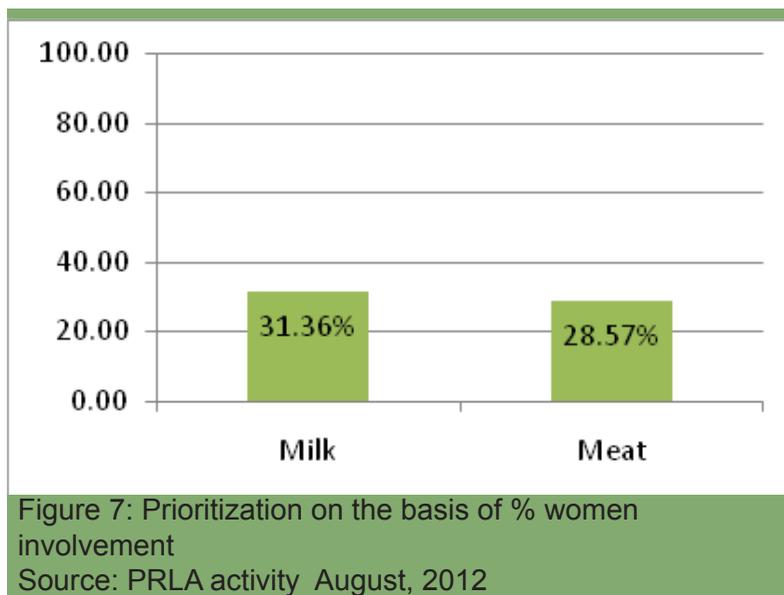
Prioritization on the basis of percentage small farmer involvement

The assessment of livestock value chains on the basis of percentage small farmer involvement in Lahore Project Region revealed that milk value chain has the highest percentage (76.79%) of small farmer's involvement. This is easily explained by the fact that 70-80% of milking animals belong to small holders with 1-4 animals. Whereas 69.29% of small farmers are involved in meat business. Usually there are no or very small number of animals raised for meat purpose. Mostly the animals that are dry or have low production and male calves are sold in the market or to butchers for slaughtering and 80% of these animals belong to the small holders. A graphical presentation of above data is shown in Figure 6.



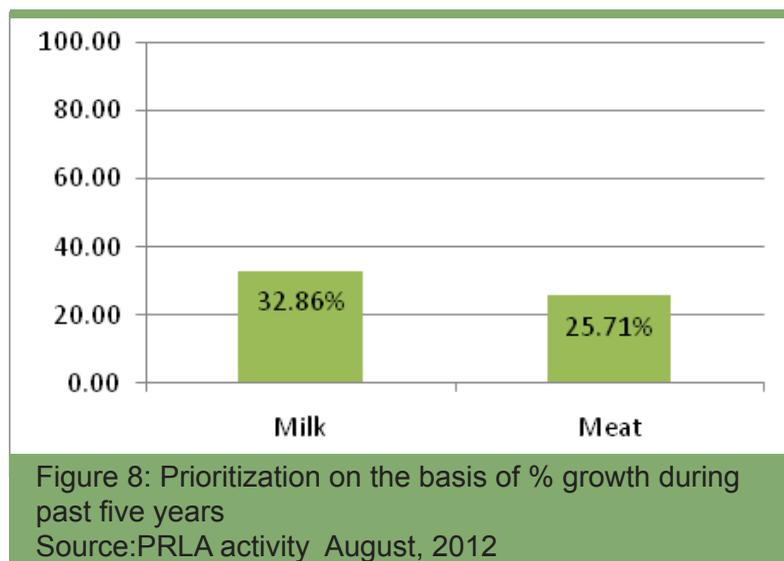
Prioritization on the basis of percentage women involvement

Women involvement is considered to be an important factor for prioritization of the value chains. As per conclusion from the FGDs data, it was found that milk value chain has the highest priority index (31.36%) with regard to the percentage of women involved. The graph below (Figure 7) shows that the women involvement was 28.57% for meat value chain. However, the high indices of women involvement in milk and meat value chain is limited to the production phase only since women have very limited or no role in marketing of milk and meat value chains.



Prioritization on the basis of percentage growth during past five years

Growth is the most important factor for prioritization of value chain as it gives a clear idea of the potential of subsector in a particular region. The livestock value chain was assessed on the basis of their growth observed during the past five years in Lahore Project Region. The priority chart given below (Figure-8) reflects 32.86% and 25.71% growth rates for milk and meat value chains respectively during the past five years.



Prioritization on the basis of percentage losses

Pre and Post production losses have a high impact on the selection and prioritization of a particular commodity or value chain. Meat value chain showed high percentage of losses (6.57%) among all livestock value chains. While, according to the FGDs conducted, Milk value chain had only 0.57% losses. An illustration of prioritization of value chains on the basis of losses is portrayed in Figure 9.

The losses in milk and meat include both pre and post production losses. Pre-production losses mean mortality or inability of animal to produce due to various reasons whereas post production losses occur usually during handling and transportation and are highest in milk value chain due to spillage and spoilage. Losses in meat value chain usually attribute to pre-production losses.

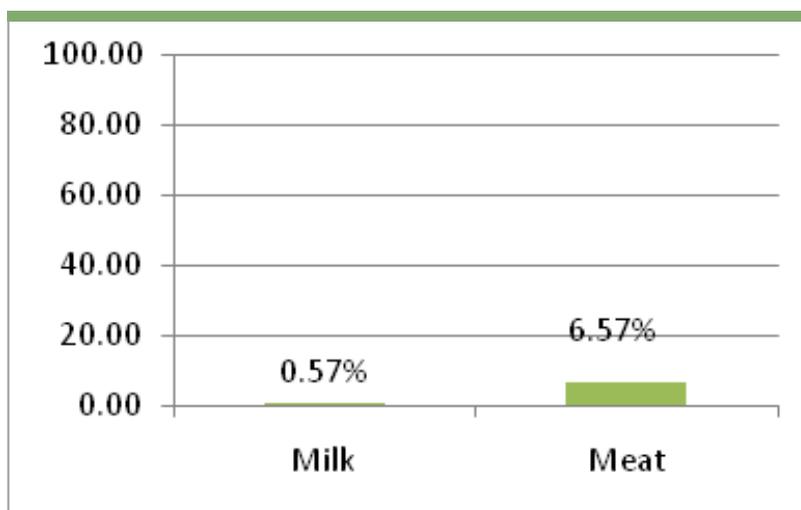


Figure 9: Prioritization on the basis of % losses
Source PRLA activity August, 2012

Prioritization on the basis of percentage household involvement

Percentage of households involved is another important factor in the process of prioritization of a particular value chain. The data collected through FGDs and analyzed for the household involvement in livestock value chain showed results are shown below in Figure 10.

As illustrated below, milk value chain had the highest index of 66.07% household involvement since majority of the rural population is engaged either directly or indirectly in milk value chain. While meat value chain follows on the priority index involving 28.29% household.

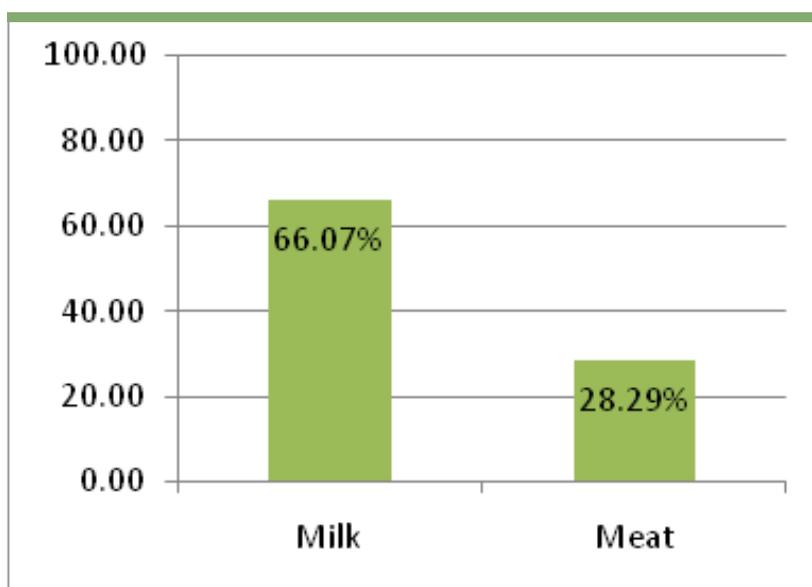


Figure 10: Prioritization on the basis of % household involvement
Source PRLA activity August, 2012

Prioritized Opportunities and Constraints in Livestock Value Chain

Proritized opporunties and constraints in milk and meat

Paired ranking tool was used for prioritization of the opportunities. The participants of FGDs ranked the list of opportunities as explained in the Table 4 below. On the basis of FGDs data analysis for milk and meat value chains, the better veterinary services was ranked highest potential opportunity followed by availability of the milk chiller and better credit facilities ranked second on the priority index.

Table 4: Priority opportunities in livestock value chains		
Priority opportunities	Score	Rank
Better Veterinary Services	5	1
Chiller Units	4	2
Credit Facilities	4	2
Calf Fattening	3	3
Breed improvement	3	3
Milk Collection Centers	3	3

Source: PRLA activity August, 2012

The constraints in the meat and milk value chains were identified and prioritized by the participants in FGDs. Shown below in Table 5 is a ranking index for the constraints.

Lack of quality medicines and access to laboratories, load shedding of electricity and chillers for milk collection were as the high intensity constraints hampering the growth of livestock sector in Lahore Project Region. Inadequate veterinary health services, lack of proper milk transportation system and financial resources along with poor market linkages were ranked as medium intensity constraints.

These constraints can be addressed through provision of subsidies and grants, breed improvement, improved farm management practices, timely and efficient availability of veterinary health services, establishment of integrated milk collection and transportation system. Easy access to soft loans can help to resolve financial issues hampering the growth of livestock value chain.

Table 5: Priority constraints in livestock value chains	
Priority constraints	Intensity
Unavailability /lack of quality medicines	High
Lack of access to laboratories	High
Load shedding of electricity	High
Lack of processing units/chillers	High
No training and awareness of farmers	High
Missing cold chains	High

Source: PRLA activity August, 2012

State of the Services Providers

Service providers are of prime importance in all value chains. These include Government bodies, private sector, NGOs and associations, middlemen, buyers, market agents and exporters. A detailed assessment of the service providers, services offered and their strength was carried out using the information shared by the participants of FGDs during PRLA exercise. The role of Government organizations such as agriculture extension, Livestock and Dairy Development Department and Fisheries Department is to provide technical information and assistance, on farm and off farm trainings and creating awareness about technological innovations relevant to a particular sub sector where as the local administration defines and regulate prices. The availability and quality of business development services are important for the overall development of any sub-sector. The situation with regard to services provision for both livestock sector was appraised through focus groups. Table 6 provides the details on service providers.

Table 6: State of the service provision			
Service Providers	Linkages	Paid/Free	Services Provided
Livestock and Dairy Development Department (Research, Extension etc.)	Weak to Medium	Free	Trainings, information, extension services.
Exporters	Weak	Cash	
Processors	Weak to Medium	Cash	Value addition
Market Agents	Medium to Strong	Cash & Credit	Financial support in purchase of inputs. Facilitation regarding sale of produce
NGOs	Medium	Free and credit	Trainings and information, facilitation
Private input supplying companies	Medium to Strong	Cash	Provide inputs, timely supply of inputs on cash payment, awareness to the livestock owners

Source: PRLA activity August, 2012

State of Market Linkages

Market linkage plays an important role in prioritizing value chains in a particular region. It also helps determine the price of a particular produce and profitability. Market linkages were assessed and ranked as strong, medium or weak depending on the basis of share of the produce in that particular market, distance from the production site and the cost of transportation. With regard to dairy and meat value chains, local markets had medium to strong linkages.

To understand the marketing of livestock and its products, an assessment regarding the strength of market linkages was also done through data that was collected during FGDs in Lahore Region and is depicted in Table 7 below:

Table 7: State of market linkages			
Subsector	District	Market Linked	Strength
Milk & Meat	Gujranwala	Local Market	Medium
Milk& meat	Lahore	Local Market	Medium to strong
Milk & Meat	Sahiwal	Local Market	Strong

Source: PRLA activity August, 2012

Conclusion

Milk is the single most important livestock product. According to FAO statistics production in Punjab showed a steady growth over the past few years, but this increase is attributed to the increase in number of milking animals and not due to increase in yield per animal. Among Lahore region districts, Kasur is the highest milk producing area with an annual milk production of 4,091,215 liters, followed by Pakpattan and Sialkot adding 2,789,987 and 2,494,093 liters to the region's annual milk production.

Meat is an ignored and rather underdeveloped sector amongst the livestock value chains in Pakistan primarily due to non-existence of breeds specific to meat production. Further, there is no trend of fattening animals for meat purpose. Punjab contributes 49.17% to Pakistan's annual beef production and 59.31% to total mutton production. Lahore region holds a share of 7.83% in beef and 9.51% in mutton production in Punjab. Within Lahore region,

Lahore ranks as the highest meat producing district with an annual production of 134.72 thousand tons of beef and 35.98 thousand tons of mutton. Gujranwala is the second highest in terms of meat production with 31.72 thousand tons of beef and 8.47 thousand tons of mutton produced every year.

Inland fisheries or aquaculture being considered an expensive business requiring land, excavation, expensive pumps for oxygenation and formulated fish feed could not gain much popularity and momentum as a viable value chain in Pakistan. Within Punjab, Lahore Region's share to national fish production is 25.40%. It is obvious that with proper interventions, there is high potential of inland fisheries in this particular region.

Identified constraints will help in taking practical steps within scope of the Project for the Improvement in the Production of these value chains. Poor veterinary health services, lack of laboratories, Load shedding of Electricity, Lack of Chillers and awareness among the farmers to adopt the latest technology are the key constraints which are hampering the abilities of the sector.

Establishment of milk collection points, Provision of credit facilities, availability of improved breeds of animals, improved quality feed and fodder; better infrastructure along with proper transportation of milk can be the opportunities for "The Agribusiness Project" to strengthen these value chains in Lahore Project Region.





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