Livestock Sector Brief

Livestock plays an important role in the economy of the country which and in the previous fiscal year contributed;

- 52.2 percent of the agriculture value added
- 11.0 percent to national GDP
- Livestock registered 3.8% growth during 2007 – 08
- It is a net source of foreign exchange earnings with approximately 8.5 % share (US $ 1.3 billion) annually
- Livestock sector's prospective role towards rural economic development may well be recognized from the fact that 30-35 million rural population is dependent on livestock.

2. Pakistan's national herd comprises 29 million buffaloes, 31.8 million cattle, 56.7 million goats, 27.1 million sheep and 1.0 million camels. It is estimated to provide 42.2 million tons milk, 2.70 million tons meat (beef, mutton & poultry) and 10.7 billion eggs annually.

3. The population growth, urbanization and increase in per capita income are the key stimulus for increased demand of livestock and livestock products. The policy of the government is private sector led development of livestock. Government has introduced "Livestock Development Policy" and "Poultry Development Policy". Both the Policies are aimed at private sector led development of livestock with Government providing enabling environment.

4. The constraints to livestock include Low Genetic Potential of Indigenous Breeds, Shortage/Inefficient utilization of feed resources, High incidence of diseases, Weak System of Disease surveillance & reporting, Insufficient delivery of services to farmers, Inadequate marketing infrastructure, Limited credit availability for livestock farmers and Prices of milk rising without benefit to small farmers.

5. The strategy for development is to increase productivity per animal and moving from subsistence farming to market-oriented and commercial farming covering entire value chain, entering in to Halal Food market, empowerment of rural population, particularly women folk and trickling down the benefit to small livestock holders.

6. M/O Livestock and Dairy Development is implementing eight Federal PSDP funded projects with total cost of Rs. 8827.921 million. These development projects have focus on promoting milk and meat production / marketing; strengthening of services delivery system to livestock farmers; prevention and control of livestock and poultry diseases; up gradation of animal quarantine services and provision of veterinary services at farmer's door step. These programs will help to strengthen and improve the livestock health and production infrastructure in the country.

Project Briefs

Agriculture Support Fund

The Agriculture Support Fund's (ASF) focus is on cluster development at a local level for improved agriculture practices, value addition and market linkages. The agribusiness sector (particularly the horticulture and livestock sub-sectors) in Pakistan faces numerous constraints through-out the value chain. The low productivity and the inferior quality of the produce coupled with the lack of grading, packaging, storage and processing facilities are major constraints facing these sub-sectors. In addition, the poor skills and knowledge among farmers on ways of increasing productivity and improving quality of output has been identified by stakeholders as a major challenge.

ASF's focus is to adopt a cluster development approach to remove constraints faced by specific agriculture / agribusiness sub-sectors with an aim to transform the production, processing and marketing systems, with particular emphasis on small-holder farmers.

In order to address these constraints, there is a need to institutionalize the production and marketing systems within identified clusters. Arrangements should be made to encourage contract farming, cooperative grading, packaging, storage and processing. Keeping in view the diversity and spread of agriculture production in Pakistan a crop-specific cluster development approach should be adopted so as to target those areas offering the greatest potential for value addition.

Therefore, there is huge potential to establish Common Facility Centers (CFCs) to minimize post-harvest losses and create market linkages. These CFCs may be established as Agribusiness Centers (ABCs) with varying degrees of facilities to include some or all of the following:

- Grading, packaging and storage facilities (e.g. for fruit and vegetables)
- Service department for equipment rental (e.g. planters, harvesters for rice)
- Bulk purchasing facilities and onward market linkages
- Input supplies including seeds, fertilizer and agrochemicals
- Establishment of local seed nurseries
- Technology services such as linkages with tunnel farming infrastructure suppliers or drip irrigation system suppliers
- Linkages with financial institutions (banks and microfinance institutions)
- Processing facilities (e.g. tomato paste or powder)
- Research & Extension services, including market intelligence and advisory services (including meeting certification standards)
- For livestock: milk collection, chilling, dairy processing etc.

Small Ruminant Production

This project is being offered by the Livestock & Dairy Development Department of Balochistan. The selected location of the project is Quetta, Loralai and Usta-Mohammad. The execution, operation & maintenance will be provided by the Livestock & Dairy Development Department of Balochistan. The cost of developing this small ruminant production of international quality is estimated at Rs. 510.25 million.

According to the Livestock Census, 2006 the total population of sheep & goat of Balochistan stood at a 24.5 million heads. Sheep are 12.8 million (48% of the total sheep of Pakistan) where as the goats are 11.7 million (22% of the total goat of Pakistan). 92% of the area is consists of arid grazing lands, barren rocky mountains and deserts making them a very indigenous breed.

The mutton of the indigenous breed is preferred over the other breeds of the country because of its taste and tender fiber. Almost all the animals rely on the rangelands for acquiring their nutritional needs, which gives a unique taste to their meat (organic meat). The department has established Karakul sheep breeding farm at Maslakh, a multipurpose sheep breeding farm at Yetabad, Loralai and a sheep farm at Usta-Mohammad, where these indigenous breeds of sheep and goat are reared. However, to become international competitive the Government of Balochistan is open to public-private dialogue to upgrade and efficiently utilize these facilities for conducting a commercial fattening program.

These fattened animals can either be sold locally or exported to the Middle East countries on special occasions (Hajj & Eid-ul-Azha). The provincial government is also open to proposals for developing commercial abattoirs with a complete mutton processing unit which will be process, grade and pack mutton for further export purposes.

Bhambhore dairy village & processing zone for meat animals

The Livestock & Fisheries Department, Govt. of Sindh has conceived a mega project for Public Private Partnership in the Livestock Sector. The Project is the Establishment of a Dairy Village and Processing Zone for Meat Animals at Bhambhore in District Thatta, Sindh. The site is to be established over 1300 acres with a provision of 1200 acres more reserved for its expansion. The site will be divided into two distinct areas for dairy and meat, with 100 plots of 5 acres each for dairy and 100 plots of 3 acres each for rearing of livestock for meat production. The project is being developed as a self sustaining facility with its own infrastructure of Chilling Units, Feed Mills, Livestock Mandi, Fodder Market, Slaughter House, Meat Processing Plant etc.

The facility would have its own water supply drawn from underground sources as well as from hill torrents. The facility would also meet a significant portion of its energy requirements from renewable sources such as Biogas, wind and solar. The self sufficiency in energy is made possible by the abundance of raw material available for turning into biogas that would then be used to generate electricity. Similarly, the site lying in the wind corridor with an average wind speed of 7.5 meters/second could have a large installed wind mill farm. The facility would have its own modern drainage/sewerage system with sewerage treatment on site. The facility has enough space for a small housing colony. A uniform design of the sheds for animals would be mandatory in the lease agreement to ensure uniformity of all maintenance operations.

The project aims at the development of a modern, self sufficient Dairy and Meat Processing Facility that would target the local as well export markets for both dairy products and Halal meat.

The facility is at a distance of 58 km's from Karachi Airport and 78 km's from Karachi Sea Port. An access road of 16 km's linking the facility with the National Highway will be built as part of the infrastructural development. There would be a huge scope for a number of value additions.

The **present status** of the project is that, feasibility study has been completed and there is a provision of Rs. 413.71 million, during the current financial year. The land has been acquired.

Mode of Public Private Partnership:

Public: Development of infrastructure such as internal and external roads; water supply; drainage/sewerage system; energy supply; etc.
Private: Development of Farming sheds all processing units, possible share in development of energy supply infrastructure.

Production Capacity:

Milk: 320 – 400 Metric Tonnes daily at maximum capacity.

Meat: 330 – 350 Metric Tonnes per quarter.

Vaccine Manufacturing Unit for Foot and Mouth Disease (FMD) in Pakistan

Project Justification

Veterinary professional ground realities and country's geography, practically dictate that Pakistan has to adopt FMD control policy with vaccination. Availability of a good quality vaccine thus is a pre-requisite for any effective control program. Vaccine produced in limited quantity (capacity 1.500 million doses annually compared to > 100 million doses requirement) at FMDRC, Lahore is of questionable quality and has even been involved in occasional outbreaks of the disease.

The technology being used is outdated and faulty and in spite of knowing this fact, there has been no change in technology being used. A few attempts by private sector vaccine manufacturers have also not met with much success. Limited quantity of vaccine is being imported in the country but is very expensive to be used in any national FMD control program.

The best option for Pakistan is to have a good vaccine manufacturing facility in the country. As the required investment in this venture is high, private sector is not expected to invest solely in such a unit until some incentives from public sector are offered.

The Project

The project being suggested is "Establishment of FMD Vaccine Production Facility in Pakistan". As described earlier, Pakistan has to follow vaccination policy instead of eradication by slaughter. A good quality vaccine is a pre-requisite for FMD control. Small quantity of vaccine produced in the country is of poor quality, has resulted in many disease outbreaks and the technology being used in its manufacturing is obsolete.

As the effective FMD control takes long time and vaccine in large quantities (approximately 105 million doses are required for cattle and buffaloes alone and if small ruminants are also included, then approximately 200 million doses will be required) is required, it will be unsustainable to buy such a large amount of imported vaccine from a

commercial source. Thus a vaccine production facility should be established in this project.

This facility will be developed on a modular basis with initial capacity of 20 to 25 million doses which will be raised to 40 to 50 million doses and ultimately 100 million doses annually. For good quality vaccine manufacturing, expertise does not exist in the country. Thus foreign expertise and investment will be needed for construction of the production facility and its overseeing during production. The production capacity of the vaccine manufacturing will be increased as the need for vaccine will increase.

Possible collaboration in Pakistan

Possibilities for different types of collaboration exist in this project. These may include:

1. Joint venture with local vaccine manufacturers
2. Public private partnership

Government of Pakistan is planning to launch a national FMD control program and will require large quantities of quality vaccine with relevant strains for its success. Some private sector vaccine manufacturers in Pakistan have already shown interest in joint venture collaboration.

National Cool Chain Corridor System

The Government of Pakistan has decided to establish the Cool Chain System (CCS along the National Trade Corridor (NTC). The CCS will comprise of three components:

1. **Cold Stores** will maintain the optimal storage temperature of produce. A total of 23 independent cold stores are proposed to be built under the CCS project.

2. **Pack Houses** will facilitate washing, grading, sorting and packing of fruits and vegetables to prevent the produce from being contaminated. A total of 39 pack houses with cold storage facilities are proposed to be built.

3. **Reefer Yards** will provide parking facility for refrigerated and controlled atmospheric containers used to transport produce from one place to another. A total 2 reefer yards would be established one each in Karachi and Lahore

This integrated cool chain will not only reduce the post harvest losses but will also improve the shelf-life and quality of fruit making it more suitable for and valuable in, the international market.

Total cost of the project is approximated at US$ 153 million. With incentive of bringing in private sector efficiency and technological know-how, the project is being developed on Public-Private Partnership basis. Pakistan's central PPP unit, the Infrastructure Project Development Facility (IPDF) is facilitating PHDEB, Ministry of Commerce to develop CCS along the National Trade Corridor (NTC) under the PPP concept.

Project Update:
The project feasibility report has been completed by the transaction advisor as of December 2009. The project is nearing the end of the transaction structuring phase and is now entering the transaction structuring phase. Of the ten options presented by the transaction advisor, two options have been short-listed: Provincial Mix without Labs and Consolidated without labs. Under 'Provincial Mix less Testing Labs' option, the project is expected to be rolled out at a cost of US$ 148 million collectively with Punjab-NWFP costing US$ 89 million and Balochistan-Sind costing US$ 59 million while the 'Consolidated less Testing Labs' option costs US$ 153 million.

Projected returns on both options are highly attractive with equity IRR ranging from 41% to 46%, and the pay-back period on both options being less than 6 years.

Camel Breeding Farms

The economic contribution of camel towards meat and milk production has not been properly assessed in the country. The camel, in general has remained a neglected species in terms of studying its real production potential and developing breed improvement programs. Some earlier work done during 1996-2000 under the collaborative project between Pakistan Agricultural Research Council and the Arab Center for Studies of Arid Zones & Dry Lands (Damascus, Syria) led to documentation of some basic production characteristics of 20 breeds of dromedary camel found in Pakistan.

Keeping in view the predominant nomadic and transhumant production system of camel in the country, Government of Pakistan has establish a PSDP funded project in Pakistan amounting to Rs.1500 millions entitled, “Establishment of Camel Breeding and Extension Network in Pakistan” with the following objectives.

1. To undertake feasibility studies to establish camel breeding farms in various parts of the country in order to study comparative production potential of indigenous breeds under optimum conditions of feeding, management and disease control.

2. To develop a national program for genetic improvement of local camel breeds

3. To undertake feasibility studies to establish a mobile network of providing extension services relating to camel health and production to the migratory camel farmers.

4. To prepare a PC-I on the title for a period of 5 Years for submission to the planning commission with an estimated cost of Rs.1480 million giving full details of technical and financial requirements as per PC-I pro-forma.

At present feasibility studies are in progress. This project may be considered for Public-Private Partnership under present regulations. Government of Punjab is also offering a camel breeding farm with full facilities on 9171 acres for Public-Private Partnership.

Corporate Livestock Farming-Cholistan

Profile of Cholistan:

- Part of Great Indian Desert that lies in Sindh and Punjab province of Pakistan and Indian Rajhistan province.
- Comprises of 6.6 million acre of land which is 100% rain feed range land.
- Cholistan has a divers eco-system having tremendous natural resources like pastoral land, various varieties of livestock, fodder plants and grasses, medicinal plants and wildlife etc.
- The human population of Cholistan is 0.15 million as against the livestock population of 1.5 million.
- The livestock production system in Cholistan is 100% based on grazing land creating the leas cost livestock production system in the world.
- One of the most limiting factors in Cholistan is subsoil saline water. The salinity varies from 100 to 1000 p.p.m. Also the sub soil water is least rechargeable to be used for agriculture purpose. There is only one strip of sweet water comprising about 6 million acres in the belt of river Hakra.

Beside the tremendous nature of resource potential of Cholistan unfortunately it is one of the most neglected areas for development in the province. There has been no integrated effort to develop taping its natural potential. Isolated efforts have been made for road network, water supply for drinking of human and livestock.

It is a matter of great concern that no master plan has yet been developed for overall development of Cholistan. Whereas the integrated efforts for taping the potential of Bio saline agriculture, rehabilitation of range land Cholistan produced with the nation and international markets has great scope to develop it as a food production zone. In the aforementioned prevalent situation the Govt. of the Punjab under the dynamic leadership of Chief Minister Punjab to develop and brand Cholistan as a organic food production zone through local and foreign investment.

The vision of the Chief Minster Punjab for the development of Cholistan as livestock production zone includes development of intensive livestock farms in Cholistan on Corporate model. The Chairman Task Force for Livestock was advised to prepare a draft for the allotment of land for investors. Fifty thousand acres of land has been identified and 100 farms (500 acre each) are proposed to be leased out. The terms and conditions have been approved and duly vetted by the Law Department.

Establishment of Infrastructure for Halal Meat Production in Pakistan.

The country has 80 million and 49 million heads of small and large ruminants, respectively Small farmers and landless peasants are responsible for producing 80 per cent of the milk and meat in the country.

The current red meat production system is both traditional and inefficient. Beef mostly comes from the end of career, or emergency slaughtered animals. A lot of baby buffaloes and calves are slaughtered when these are only 1-2 weeks old. Few calves are raised to 60-80kg but on extremely poor and unbalanced diets. Lack of commercial, on-farm livestock feeding could be blamed for existing price ceiling which is fixed too low to recover the production cost.

The livestock resources hold potential for increasing the production of meat. It is estimated that about 6-7 million buffalo/cattle male calves if raised on balanced diet could double the production. Sheep and goats can also be raised for quality meat production.

Progressive meat retailing firms are needed to promote the sale of processed and quality meat cuts to consumers. It should be packed and labeled at a price, including the cost of processing, packaging and quality. Development of slaughtering and processing operations can help in obtaining maximum value. There is considerable scope for increasing the efficiency of slaughtered stock and its bye products by reducing the wastage. The value of hide or skin may be enhanced by improving the handling, especially during the skinning process as these are the most valuable slaughter bye products. The development of a modern beef industry should start at distribution level.

Halal food market is expanding fast and is expected to surpass $650 billion in 2010.

Facilities and responsibility:

a) Government of NWFP

- Will provide land for the development of the enterprise
- Will develop the catchment areas through farmers' organization
- Will provide man power
- Will provide services and awareness to livestock farmers
- Will develop linkages among different stake holders

b) The investor:

- Will construct building for the enterprise
- Will procure machinery and equipment
- Will get access to international Market
- Will develop processing and packing facilities

Location of the Project: Peshawar, Charsadda and D.I. Khan in NWFP.

Total Cost of Project: Rs.5.00 billion

Establishment of Leather Industry

Leather industry is the second largest export earning sector, currently this sector is contributing $800 million a year but has the potential to multiply volume of export. Basically, it a job oriented sector providing employment to a very large segment of the society besides earning foreign exchange for the country.

Pakistan is fortunate that the raw material required by the industries is available in the country in abundance. Local available raw materials and low wage cost gives the country a competitive edge in the world market.

The primary source of raw material for the leather industries are hides and skins from animals that have been accepted as fit for human consumption at approved slaughter houses. The quality of raw hides and skins generally depends upon the quality of livestock, young and healthy cattle gives best and also its collection, preservation and storage.

In facts many factors which affect quality of leather at pre-slaughtering stages, slaughtering stages and post slaughtering stages. It is estimated that around 20- 25% are affected by pre slaughtering stages like injuries, livestock diseases about 30-40% at slaughtering stages like skin cut and 10% preservation and storage. Absence of organized farming is also a threat to leather industries.

Facilities and Responsibilities:

a) Government of NWFP

- Will provide land
- Will arrange manpower
- Will develop Catchment areas
- Will build capacity of the farmers
- Will develop linkages among different stake holders

b) The Investors:

- Will construct building
- Will procure machineries and equipments
- Market development and export

Location of Project: Peshawar and D.I. Khan

Cost of the Project: Rs. 7.0 billion