
The Legal Structure and Role of Livestock in Pakistan's Economy

Zia Ullah Khan

There is a continuous increase in demand for animal origin food at global level. Massive urbanization, huge population growth, increase in education level and increase in per capita income in Pakistan are main contributors behind this increasing demand driven growth. This increased demand can provide growth in income opportunities for a large number of rural poor populations. But "Livestock Revolution" will over burden the capacity of existing production and distribution systems of the economy. This can further deteriorate public health and environmental issues. Governments and industry should get ready for this continuous change with long term policies and investments that will fulfill consumer demand, improve nutrition and provide direct income growth opportunities to those who need these and at the same time would reduce environmental and public health issues. The weak regulatory system place in Pakistan must be improved for formulating and implementing balanced policies for both urban and rural communities attached with sector. The governments would focus on these main issues while formulating and reforming Livestock Development Strategy in Pakistan(National Strategy: 2021).¹

Key Words: Development Strategy, Livestock sector, Veterinary Department, Economic Survey, Gross Domestic Product and National Food Security & Research

Introduction and Background

The livestock sector is a very important and intrinsic part of agricultural sector of Pakistan. Livestock & Dairy Development Department, as an independent department was established in 1973. Its history goes back to 1869, when Lord Mayo the then Governor General and Viceroy of India appointed a commission to report on livestock diseases. A Civil Veterinary Department was established and about ten years after its establishment, i.e. in 1901, Civil Veterinary Department was provincialized, placing it under the charge of Director of Agriculture, followed by placing it under the charge of Director Veterinary Services in 1927. In 1948, Animal Husbandry Wing was established under Agriculture Department. In 1962, Veterinary Department was re-organized. Presently, the department has a vast organizational setup (Department of Agriculture: 2021).²

The Government considered that the present policy is to foster livestock with the vision to private sector led development sector by providing enabling environment through public policy checks and interventions. The interventions through regulatory measures are aimed at increasing per unit animal productivity by better management practices, artificial insemination, animal breeding practices, health coverage, controlling livestock diseases and use of balanced ration. Government is in the process to develop meat export processing zones, setting up modern slaughter houses, diseases control centers such as Highly Pathogenic Avian Influenza (HPAI), Peste des Petitis Ruminants (PPR) and Foot & Mouth Disease (FMD). More focus is towards to enhance productivity and identification of such breeds which are well adapted to agriculture climatic zones of Pakistan (Economic Survey: 2020-21).³

The share of livestock is increasing silently in total GDP of agriculture and desert areas people are more depending on livestock for their livelihood. In desert and rural areas the small size farmers and herders must be given keen attention by the practitioners and development planners to their problems. There should be framework for milk and livestock marketing of better return for farmers and further investments in farming on commercial lines. The interest free credit facilities must be given to farmers (Ijlal Hussain: 2017).⁴

The Livestock Sector has contributed 60.1% to the growth of Agricultural Sector and 11.5% to GDP of Pakistan during Financial Year 2021 coping with issues like structural inability, lack of creativeness on fronts of skills and technology, less productivity and low exports.

Significance and Scope of Livestock

There is a lot of significance of livestock sector in the economy of Pakistan and useful research in this area will provide further better opportunities to the stakeholders for proper and better management of this sector with more efficient and modern technology coupled with international best practices. As livestock is a crucial one in agriculture that has potential to absorb more rural workforce to alleviate rural poverty, if proper focus is given to this sector. It is pre-request for the sustainable economy of the country to increase the animal production. There are many issues in the animal production which could be addressed through proper implementation of policies and vision. The most considerable constraints in Pakistan are nutrition, animal health, animal productivity/genetic make-up of the animals, provision of finance to livestock farmers, livestock extension and marketing. This is very vast subject and it is very difficult to cover all the areas of this study in this paper. Therefore, scope of this study is kept limited with regard to Pakistan in broad spectrum and at provincial level only Punjab related matters/ issues have been discussed. Moreover, the livestock matters regarding to animals are the prime focus. In international perspective an effort is made to explore this sector with respect to USA, India and Afghanistan. Moreover, this paper would help in understanding the key problematic areas, major issues faced by the livestock sector and prevailing best practices at international level regarding this sector to grasp the available opportunities and to get the real benefit/potential of this sector in the Economy of Pakistan.

As it is acknowledged that the livestock Sector is an important sub sector of agriculture sector therefore, both the agriculture and livestock sectors are interlinked and correlated with each other and have been studied through the different policy documents and data of Federal and Provincial Governments. Moreover, the most recent relevant articles are studied and interviews of concerned experts, farmers and government officers attached with sector are conducted. Websites/ newspapers searched and after the detail study it emerges out that most of the articles regarding this topic only emphasized on academic viewpoint.

A study was carried out to examine the relationship between agriculture GDP and livestock product output in the areas of mutton, beef, milk, skins, wool, hair, bones and hides in last 35 years. This study concluded that there is significant positive relationship between mutton, eggs, bones, milk and fat and agricultural GDP of Pakistan. However, there is insignificant negative relationship between hides, wool, skins, hair and meat with agriculture Gross Domestic Product (GDP) of Pakistan (Rehman,

2016). Another study was conducted on buffaloes regarding the certain changes in the biochemical and enzymatic profiles of young buffaloes, by non-lactating and lactating of animals during different sampling and found that higher mycotoxins, urea, glucose, creatinine, values were surfaced during summer (Rasheed, 2020). There is comparison of traditional and model markets with respect to their utilization by the farmers and maximization of income through sale of their animals. Different variables were discussed and concluded that model cattle market are important for the farmers to sale their animals at good market prices (Ghafoor, 2019). Balochistan being a vast and largest province of Pakistan, this province is important for rearing of livestock, especially goats and sheep.

In recent study which was done in JhalMagsi regarding possible role and contribution of livestock in provision of food security to people. In desert areas like JhalMagsi livestock is crucial factor in increasing of their income of population attacked with this sector (Khan, 2019). Lack of education is one of the major problems of rural women and further a negligible share of income from livestock production was rendered to the rural women. Rural women do not participate in decision making related to livestock matters. Hence, there is a need to recognize their contribution in livestock activities. This would ultimately boost the role of women in livestock production in Pakistan (Akram, 2018). Another study provides information about tick diversity in Pakistan, and pathogenic bacteria in different tick species. Further, the study describes results about tick diversity in livestock pathogenic bacteria in tick species (Karim, 2018). The concept of halal meat is getting importance day by day all over world, both in Muslim and non-Muslim countries and Pakistan has great potential in this area to fetch due share in international market especially in Muslim countries like Saudi Arabia, Iran, UAE (Sohaib, 2017).

Further, the livestock sector is very vulnerable due to certain diseases, seasonal changes and provision of food and treatment. In this scenario livestock insurance is appreciable option for the farmers and farm owners, if this could happen under the umbrella of Federal and Provincial Governments. The study was carried out in this regard in Raiwind Lahore and Kusar tehsils of Punjab (Abbas, 2017). This study is made about feasibility and capabilities of leveraging internet things based on technology microprocessors and microcontrollers with regard to Pakistan's livestock production and management (Ahmed, 2018). A research was conducted with respect to livestock farms in Punjab, Pakistan to find the role of anti-Brucella antibodies in trivial ruminants and related possible risk factors regarding its presence in livestock farms (Jamil, 2020). Further, another

study was aimed to gauge the potential and expectations of halal food, distributors, producers and consultants for the promotion of halal food industry to become as a potential halal food hub. The study revealed that Muslim consumers prefer halal food items and in this field through proper initiatives like advertising and marketing to get competitive advantage in this field (Ijaz, 2017). Moreover, another study revealed that annually there is loss of US dollars 3 billion in livestock sector due to zoonotic disease. The diseases and infections in livestock are caused by many factors, presence of in-between hosts, translocation of infected animals, climatic conditions and free-living parasite. These are spread due to parasite patterns on genetic characteristics of diseases and infections in abattoirs (Zia Ur Rehman: 2020).⁵

The Structure of Livestock Sector

In consequent upon of 18th Constitutional amendment, the Ministry of Livestock & Dairy Development was abolished on 5th April 2010. Initially the concerned technical staff was attached with the M/O Commerce and later on Federal Government created M/O National Food Security & Research in February 2012. In this Ministry the Livestock Wing is allocated the functions of Animal Quarantine Departments and Livestock and Dairy Development Board (LDDDB) in Pakistan. The functions of these departments are mainly as procurement from abroad, Import/ export and facilitate/ promote marketing of livestock and its products(MNFSR: 2021).⁶

In Punjab, the Livestock and Dairy Development Department, Punjab is having departments like Animal Health and Extension Services, Research and Training for Livestock Production, Preservation and Development of Livestock Genetic Resources. As regards the Legal Frame Work of Livestock in Punjab, the relevant Legal Acts regarding the functioning of Livestock and Dairy Development Department are Animal Quarantine Act, Punjab Halal Development Agency Act, 2016, Punjab Animal Health Act, 2019, Punjab Livestock Breeding Act, 2014 and Punjab Animal Slaughter (Amendment) Act, 2016. The universities and departments regarding Livestock in Punjab are Cholistan University of Veterinary and Animal Sciences, Bahawalpur, University of Veterinary and Animal Sciences, Lahore, Punjab Halal Development Agency, Punjab Livestock and Dairy Development Board and Punjab Agriculture and Meat Company(L&DDP: 2021).⁷

Livestock Sector / National Economy

Over the years livestock has emerged as the largest subsector in agriculture sector. The sector contributed 60.1 percent to the agriculture value addition and 11.5 percent to the GDP during FY2021. More than 8 million rural families are engaged in livestock production and deriving more than 35-40 percent of their income from this source. Gross value addition of livestock increased to Rs. 1,505 billion (2020-21) from Rs. 1,461 billion (2019-20) with an increase of 3.0 percent (Economic Survey: 2020-21).⁸ Pakistan can be able to enhance its livestock production to make exports to various countries such as Gulf States and other neighboring countries. The problems/ bottlenecks in the policies and their implementation are given detail in this paper in preceding paragraphs of this paper.

Livestock Population in Pakistan

It is very important to see the present Livestock population in Pakistan before going to discuss the other areas of this research so that the discussion and analysis would be made in more an effective manner. The Ministry of National Food Security & Research has given the detail of all species of livestock in Survey of 2020-21. As per survey the population of Cattle recorded as (51.5), Buffalo (42.4), Sheep (31.6), Goat (80.3), Camels (1.1), Horses (0.4), Asses (5.6), and Mules (0.2) in millions. Further, as per survey of 2020-21 the quantity of milk and meat production is estimated in (000 Tones) in 2020-21 of all species and the milk Gross Production is about 63,684 and individually Cow (23,357), Buffalo (38,363). On the other hand the total human milk consumption in 2020-21 is about 51,340 and individually the cow produce (18,686) and Buffalo (30,691). The Meat total consumption in 2020-21 is about 4,955 in (000 Tones). The Beef consumption is 2,380 and Mutton (765) in (000 Tones). The estimated Livestock products production in 2020-21 in Million, Hides (18,751), Cattle (9,759), Buffalo (8,878), Camels (114), Skins (60,837), Sheep Skin (11,947), Goat Skin (30,946), Fancy Skin (17,945), Lamb skin (3,548), Kid skin (14,397), Wool (47.9) and Hair (30.2). Moreover, the estimated Livestock products are in 2020-21 Tones of species which include Fats (313.6), Dung (1,405), Urine (425) and Head & Trotters (282.4) (000) Tones. These mentioned figures and data are based on the projected population census of 1996 & 2006 of livestock and projected growth rate of livestock by Ministry of National Food Security & Research (MNFSR: 2021).⁹

Role of Livestock in Pakistan

The Federal Government is about to undertake different projects. About 380,000 male calves are to be protected from early slaughter in 4 years and to provide financial support of Rs 3000 per calf. Total cost of this project is Rs. 3.4 billion. The second project is Calf Feedlot Fettering and Rs. 4000 will be used as incentive for farmer to produce healthy and nutritious beef in the country. The third project is Development of Yalk in Gilgit-Baltistan with the cost of Rs. 54 Million Government under its Policy Measures through Ministry of National Food Security and Research (M/o NFS&R) in compliance of the 18th Constitutional Amendment. These measures have been taken to import of high yielding dairy cattle breeds of Holstein-Friesian and Jersey for enhanced milk production and provision of semen for good quality breed animals (MNFSR: 2021).¹⁰ So far the future plans of M/o NFS&R are concerned, first is the deployment of livestock sector through Inter Provincial Coordination, value addition in livestock industry, diversification of livestock with support of private sector and control of transfer of diseases. Further bringing of more investments in this sector and searching of more export markets with focus on halal food and development of breeding policy of livestock (MNFSR: 2021).¹¹

Role of Punjab Halal Development Agency

The Punjab Halal Development Agency Act was enacted in 2016 and under this Act Halal Parks had been established in Punjab as this is requirement of meat exporting/ importing counties to adopt best international standards and practices in production and this service business is to be located at common center with provision of halal business. The green technology is free of all kinds of pollution, availability of raw material, energy efficacy, businesses leakages and all infrastructure facilities. The conduct of business of Halal Park is with a view of getting more economic benefits while focusing of concept Halal meat concept. The Punjab Halal Development Agency (PHDA) is established for Human Resource Development (HRD) Halal Business Projection and compliance regime of Halal food and maintenance of safety standards for Halal Hub in the world. The establishment of halal meat Parks is considered by Punjab Government very useful in Faisalabad, Lahore, Multan Bahawalpur, Rawalpindi, Sargodha and Gujranwala due to availability of good quality animals, provision of basic infrastructure and other things described above (Punjablaws: 2021).¹²

In the recent years halal food is emerging as universal sign of quality assurance in meat industry. The halal food market in world is rising as powerful sector of commerce and finance. Halal food products and Islamic Financial Services (IFS) have about one trillion USD annually. Government is adopting approach that halal food producer's perception, market strategies, religious beliefs and potential of expectations of Halal producers to strengthen Pakistan Halal food industry ([SyedaGillani: 2017](#)).¹³

There is relationship between export potential and halal meat production in Pakistan. From 1994 to 2016 the average annual growth of meat production was 3% and exports increased about 32%. On the basis of this growth rate Pakistan total meat production would be 6,078 thousand tons and exports will be \$17,477 M by 2029-2030. The all four provinces Balochistan, Khyber Pakhtunkhwa (KPK), Punjab and Sindh have potential for both beef and mutton production and export. The increase of export of beef, mutton and frozen meat will provide support to the meet balance of payments difference gap of Pakistan (HabibullahMagsi: 2020).¹⁴

There is increasing demand in Halal meat from developed and developing counties and per capita consumption of meat is also on upward trend as per capita meat consumption is 14.7 KG in 2009 and expected to reach at 35.3 KG in 2025. The increase in per capita consumption is due to process of industrialization, urbanization and economic growth in addition to eating patterns. Presently, there is change in pattern of use of fresh meat to frozen meat or ready to eat foods as there is change in life style, economic uplift and mass awareness. In Pakistan meat processing industry is growing and generating tons of meat products like Kababs, patties, tenders, nuggets and drumsticks etc. Many private companies have entered in meat processing, prominent of these are K&N, Seasons foods, Zenith, Pk Livestock, Syed Traders and many of others companies are processing halal meat to meet increasing national and international demand. Punjab has established company namely Punjab Agriculture & Meat Company (PAMCO) to meet the growing demand of halal meet in 2014. This plant is working with modern techniques mechanical slaughtering of animals for both mutton and beef and with value addition of allied products. Presently about 600 billion dollar halal meat market is available having of international quality standards. The Lahore Meat Processing Complex is working with its capacity of 6,000 mutton and 500 beef animals per 8 hours in one municipal shift(PAMCO: 2021).¹⁵

Livestock Policy

To develop livestock sector there is a need to enhance capabilities in animal-food production and modernization of the techniques to extract more milk and meat by utilizing available resources (Shahid Saleem: 2021).¹⁶ The Government of Pakistan announced a new “Livestock Development Policy” (LDP). The dairy sector in Pakistan dealing with production of many dairy products is in the phase of expansion like others industrial sectors with presently nearly about 17 units. Multinational company engaged in dairy products has planned to invest US \$480 million over a period of five years (*Daily Dawn*: 2008).¹⁷ This investment would benefit about 3000 villages with investment of Rs.6 billion annually in the area. Punjab Vision 2020 serves as a guiding policy for the Livestock Vision 2020 of the Livestock & Dairy Development Department, Government of the Punjab. Livestock Vision 2020 sets the path for up-gradation and development of the livestock sector in the province (*Annual Report: 2007*).¹⁸

The government has taken Livestock Vision 2020 which is about to provide and create facilitating environment for production and rising of livestock and to use this policy as a vehicle for poverty alleviation, rural development and social security eventually leading towards creation of exportable surpluses domestic food security. Processing and marketing are comparatively simple to plan and implement. Milk production at the farm level and quality awareness at the consumer level are two areas where there can be no short cuts. Both factors have an inertia that is slow to respond to any interventions (Livestock Punjab: 2021).¹⁹

Milk Production and Processing

The Doodh Darya Project (DDP) is focused by Pakistan Dairy Development Company (PDDC). The milk is harvested by 8 million farmers and then poorly managed as this is scattered all over country and there is weaker links of value chain among the stakeholders. It important to mention here that 97 per cent farmers are not associated with the formal and government managed markets. In Pakistan there are about 700 chillers installed, out of which only 7-10 are installed in Sindh, rest of all are installed in Punjab. The role of multinationals must not be dominated to driving out small and medium dairies and farmers out of local and domestic market (Afshan Subohi: 2017).²⁰ The data of imports revealed that during 2011 to 2016, there is increase of imports of skimmed milk powder from 27,706 tons to 43,068. This data reflects that the import of powders has

been increased and spent over \$175m in importing these powders in 2016 alone(Dawn: 2021).²¹

Conclusion

Pakistan being a developing country, livestock is a great chunk of our agricultural industry, contributing greatly to our GDP. The ever increasing demand has led to the urgency of coming up ways to increase production which at times are not so healthy. Thus there should be encouragement of standardized healthy practices when it comes to preparing feed and the breeding of animals, more over not only this but slaughtered animals should also be handled with such care as to prevent the hygiene of the product. The opportunities that are available to us should be further explored to attain the maximum benefit from them to increase further the meat and milk production. We have the skills and have the ways of attaining even better technology which is at par with the rest of world. We should thus focus on these and try to avail our best prospects and potential in livestock sector at the maximum in the economy of Pakistan. The challenges and issues we are facing are not on a scale which could not be overcome in Pakistan and we could very much mitigate them if not completely eradicate them, because we have both potential and the skills to do so.

Recommendations

Now at the end of this research paper on the basis of above mentioned facts,data and circumstances of livestock sector few important recommendations have been made for consideration of policy makers and implementers to reap the real potential of Livestock sector in Pakistan.Livestock sector in Pakistan has suffered a lot due to absence of advocacy or effective voice in policy making coupled with a disinterested attitude of stakeholders and politicians both at policy formulation and implementation level. The Livestock Development Policy was announced in 2020. This policy has not enabled all the stakeholders to be on board and pursue a proactive livestock policy.

In the recent years halal food is emerging as universal sign of quality assurance in meat industry. The halal food market in world is rising as powerful sector of commerce and finance. Halal food products and Islamic Financial Services (IFS) have about one trillion USD annually. Government should adopt approach that halal food producer's perception, market strategies, religious beliefs and potential of expectations of Halal producers to strengthen Pakistan Halal food industry.

The Pakistan has great potential being agricultural economy with 42.4 million buffalo and 51.5 million cattle as per Pakistan Economic Survey, 2020-21. There is gap exists between production and consumption of beef that must be fulfilled. The above mentioned data in preceding paragraphs of this paper regarding livestock sectors of USA, India and Pakistan with respect to Milk, dairy products, live animals and meat production and export of the same to rest of the world clearly visible that Pakistan has great potential in livestock sector by removing the issues and challenges confronting with this sector. Our livestock exports are not on such scale that is to be appreciated, however these must be increased. Pakistan is far behind Netherland, Brazil, Germany, India and China in terms of export of livestock related things and products.

The development of Dairy Sector in Pakistan should also incorporate the salient features of the success story of the Amul Dairy Model in India whereby through Participatory/ Cooperative System and the formation of Dairy committees at the District level to achieve social mobilization, cooperative dairy development, easy availability of credit, increased employment opportunities.

More than 20% milk marketed for human consumption is wasted due to lack of proper collection and distribution facilities. Therefore, it is imperative to establish a network of milk collection, chilling centers and refrigerated transport. The establishment of modern butchereries through private sector in towns and cities shall improve the quality and quantity of meat. Slaughter houses are too needed to be improved through the private sector intervention to overcome both the deficiency and quality through private investment. Encouraging the private sector for establishment of large scale breeding farms is an intervention required immediately through leasing land and free technical support etc.

The statutory body designated to formulate and implement food safety standards at par with international markets should monitor the effective implementation of the relevant rules. Our livestock industry would also benefit from the system in place which could establish a mechanism for animal identification, tagging, traceability and tracking system. Currently all animals in USA are tagged and their requisite data is being monitored. In Pakistan animal tagging has just begun and that is too important in corporate farming.

Further, there should be a program in place for the control and eradication of diseases and proper vaccine facility should be established. Proper laboratories should be in place for the production of vaccine facilities and

testing of technologies so that proper medication is available at affordable rates for the farmers. At the end I conclude that through these proposed recommendations and interventions this sector will work as a catalyst to increase the GDP and flourish the economy of Pakistan. Moreover, this will also increase the standard of living of human force attached with this sector.

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