

Transforming Livestock Resources into a Beacon of Hope through a

Good Governance Model

An Action Plan for transforming livestock resources into a network of entrepreneurs, generating decent employment and exportable surpluses under Livestock Technopark Peshawar, Pakistan

Part-II

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Background

The Author received an email from Ms Faiza Younas titled, “Consultancy Offer- National Consultant Livestock and Dairy Development”, with several attachments including file named TOR LS - 12.3.19 JC.DOCX (Annex-1, 2) containing Terms of Reference for the assignment. The Author was excited to read the TORs as these were in line with his vision, mission of life and experienced gain during his 36-years-service in the public sector organizations. The Author was very much comfortable with the TORs with the overall objective of addressing policy implementation and regulatory issues, value chain development, private sector engagement and overall required capacity at provincial and districts levels. Furthermore, the consultant shall delineate a strategy on promoting market oriented production approaches through improved and specialized production modalities. The Action Plan document will have detailed implementation and management arrangements as well as a coherent monitoring and evaluation framework to achieve targeted outputs in the specified period. As per TORs, the Author was supposed to report to Farrukh Toirov.

Via email dated 7 July 2019, Dr Sanaullah Khan communicated to the Autor that, “Please keep contact with me either through mail or phone. I am the focal person for the consultancy assigned to you (Annex-3). You are kindly advised to ask me if you need an support and help.” This was in contradiction to the TORs shared by the FAO Islamabad designating Mr Farrukh Toirov as my Reporting Officer.

The author was disappointed when he got several telephonic calls and an email from Dr Sanaullah Khan with the advice to sit in the office of the Directorate General Extension Livestock and Dairy Development Department (DG LDD Ext) and write what they say. A quite different set of TORs were endorsed by Dr Sanaullah Khan via his email dated 8-7-2019, with the advice to work closely with the Director General Livestock KP and other key stakeholders at provincial and local levels. Regarding administration and arranging appointment with stakeholders and partners, Director General Livestock will provide the necessary support (Annex-4, 5). The consultant is required to be a team player with the ability to maintain good working relationship with the Directorate staff, stakeholders and partners. For organizing the consultative meeting and validation workshop to be held at the end of the consultative period in Peshawar, the consultant will work together with the directorate general. The Directorate will provide the consultant office space and secretarial services and arrange validation workshop.

Policy Gaps and Conflict of Interests

The Author was not comfortable with the TORs and instructions of Dr Sanaullah Khan as these have limited to scope of the National Consultancy up to Director General LDD Extension. In fact, the DG LDD Ext is the most powerful stakeholder of Livestock Sector with a huge network of veterinary institutions in the province and an access to over 90% of the financial and administrative resources. Based on these facts, the DG LDD Ext was the sole and dominant actor behind formulation of the KP Livestock Policy. The policy ignored the interests of the LDD Research Wing, the Universities and the private sector, including livestock farmers and products processors.

As a result, the research wing could not grow and its laboratories could not get accredited for quality control practices. Feedback for vaccine quality was not provided. Instead of strengthening the vaccine production at Veterinary Research Institute in qualitative and quantitative terms, the government relied on import of vaccines from abroad, utilizing valuable foreign exchange. No conducive environment was provided to the researchers working at LDD Research and after getting higher qualifications they moved towards the universities, etc., for better job opportunities. LDD Research was not provided opportunities for participating in the mega projects like Prime Minister's Initiatives, although feasible business models were available in the areas like propagation of indigenous and imported poultry breeds as family income generation tools. The KP Livestock Policy 2018 has failed to protect interests of LDD Research while this Mission noted it with concern.

The four universities working in public sector in the province namely, the University of Agriculture Peshawar (UAP), Gomal University (GU) Dera Ismail Khan, Abdul Wali Khan University Mardan (AWKUM) and Sheringal University Dir, have been awarding Doctor of Veterinary Medicine (DVM) and postgraduate degrees. DVM degrees of only one university (GU) has been accredited by Pakistan Veterinary Medical Council (PVMC); however, their membership of the Council has been suspended. Hostile attitude of PVMC and lack of support by the administration of the respective universities has resulted in constant deterioration in the quality of education at these institutions. The KP Livestock Policy 2018 has failed to address these issues.

The private component of livestock sector of Khyber Pakhtunkhwa comprise livestock and poultry farmers, products processors, marketing partners and service providers. They are facing numerous challenges related to regulatory, financial, administrative and marketing barriers . They are deprived of the benefits allocated in the form of ADP, PSDF and other funds to the public sector, especially DG LDD Ext. There the basic functional units are the civil veterinary hospitals, dispensaries, centers and mobile clinics. These units are awaiting sick animals for treatment. A good progress report more sick animals. This is contrary to the development concept of livestock sector where presence of disease-free, productive, and profitable animals are indicators of better efficiency. The private farmers also keep the livestock and poultry as a source of family income and focus on economic parameters to get higher profits. Here arises a conflict of interests between the private and public sector where the

private sector need healthy and profitable animals and the public sector need sick animals to keep the hospital running.

Overcoming policy gaps through Good Governance

Via email dated 8-7-2019, the Author informed Dr Sanaullah Khan that, “I have got different TORs from the FAO Head Office which are attached herewith for your kind information (Annex-6). The work plan is being prepared on weekly basis and shared with International Project Coordinator FAO Peshawar, for information and necessary action.” The Triple Helix Model of Academia-Industry-Government Nexus was followed as a good governance approach. The National Consultant approached various stakeholders relevant to the provincial livestock sector.

The Dean Faculty of Chemical and Life Sciences, Abdul Wali Khan University Mardan invited the author to visit their College of Animal Husbandry and Veterinary Sciences. The College has been offering admissions into DVM degree program since fall semester 2014 and another batch was admitted during the succeeding year. The two batches have got graduated. Class rooms, laboratories, demonstration farms and essential staff have been made available. However, Pakistan Veterinary Medical Association has not yet accredited the program and prevented further admissions as some more staff, etc, are required as per PVMC requirements. A veterinary clinic has been established at CVSAH, however, the university gate has been closed for the farmers and their animals to visit the Clinic. PVMC prevented AWKUM from offering further admissions into the DVM degree program. Meetings were held with AWKUM, Women University Mardan (WUM) and KP Livestock Farmers Welfare Association (KPLFWA) Mardan and recommendation regarding accreditation of DVM degree, engagement of women in development and business support to farmers, were accommodated in the Action Plan.

Director General Livestock and Dairy Development Research Wing (LDD Res) Charsadda Road Peshawar was kind enough to hand over the required documents to the Mission and to arrange a workshop regarding the issues, policy interventions and proposals to be included in this Action Plan. A general perception was that research facilities could not be made appropriately available due to procedural complications and the time required to materialize the purchase process. The scientists get little opportunities for conducting outstation applied research at commercial farms and products processing facilities. Creativity of the scientists is depressed due to lack of motivating environment and after getting higher qualification (PhD degree) the scientists find no attraction to stay here and leave to join services at some university or abroad. Creating an enabling applied research environment for the officers through an incentives package, user-friendly procurement rules and their promotion based upon performance, will raise the level of satisfaction of the officers, leading to enhanced performance of the research wing. Livestock Technopark Peshawar was suggested to be established with head office along with a Livestock Business Support Center (LBSC) at Veterinary Research Institute (VRI) Peshawar.

Two more LBSCs were suggested for Veterinary Research and Diagnostic Centers (VRDCs) at Kohat and Abbottabad.

Office of the Director General LDD (Extension Wing) of the Livestock and Dairy Development Department (LDD Ext) was visited along with Director Planning LDD Ext. The DG suggested establishment of Policy Implementation Cell and restructuring of the Department through a clearly defined mandate. They suggested Rangeland Management Committee and a forum for creating linkages among department, migratory livestock keepers, livestock traders market administration etc. These concepts have been covered under an autonomous body of Livestock Technopark Peshawar (LTP). Establishment of an Advisory Board for livestock and poultry market was an important suggestion of Director General LDD (Ext); however, the Mission is suggesting LTP as an autonomous body, and an Academia-industry-society-government nexus, rather than an advisory board with no implementation authority.

Gomal University DI Khan was visited and a meeting was held in the office of the Vice Chancellor Gomal University Dera Ismail Khan to discuss the Khyber Pakhtunkhwa Livestock policy and strategy and suggest Action Plan under preparation by National Consultant FAO. The meeting was organized by the Faculty of Veterinary and Animal Sciences in collaboration with FAO Peshawar Office. The main objective was to set a legal framework in a dynamic equilibrium where everyone can find room and adjust in growth cycle under the legal Umbrella and keep growth cycle wider as well as harmonizing the peace of development, achieving the objectives mission and vision. Based upon the expertise available at the University and the huge resource base available in the DI Khan district and the southern Khyber Pakhtunkhwa, the participants agreed on establishing Gomal Technopark (GTP). GTP, with a management board having full legislative, financial and administrative powers.

A meeting was held with stakeholders of District Bannu and the adjacent areas for identifying their issues and integration into Livestock Action Plan. Eighteen representatives of commercial farming community, milk dealers/shops, meat dealers/shops, Livestock and Dairy Development Department KP and KP Food Safety and Halal Food Authority attended the meeting. Commercial Dairy Farming was considered as a tool for eradicating poverty under hard conditions. Awareness about commercial farming is lacking in the region. About 200 commercial farms have been established in the district. Insemination has been a great issue at the farms. Milk quality testing is required on larger scale to reward the good producers and phase out those involved in adulteration. Diseases have been a major bottleneck in development of the commercial farms. Prices of the farm inputs are not regulated by government while prices of the milk and meat are regulated by the district administration. The cost of milk/meat production is increasing rapidly without any parallel increase in the prices of milk and meat. The farm management and labor have been other issues impeding the smooth running of the farming operations. Establishment of LBSC Bannu was recommended with a Grant/Endowment Fund and development grant.

A visit was made to Khwazakhela Swat to discuss the prevailing issues and corrective measures related to the stakeholders across the livestock based food value chain. Principal Research Officer, VRDC Swat; SVO (Health), LDD Extension Wing KP; and Director ORIC Swat University, represented the public sector organizations. Local Government/Provincial Assembly were represented by MPA PK-3; Tehsil Nazim, Khwazakhela; Chairman Agricultural Committee; and executive members of Union Councils. President, VP and General Secretary, Khwazakhela Trade Unions Federation, commercial farmers, butchers and milk dealers participated in the event, totaling 53 delegates. To address the issues, LBSC Swat has been proposed to be established at University of Swat (UOS).

Livestock Markets and Slaughter Houses are being managed by Local Government and Rural Development, Government, Khyber Pakhtunkhwa. The huge livestock resource base of DSP Region could not be utilized to provide good economic returns to the producers, nor quality food to the consumers. The main reasons behinds this state of affairs are poor socio-economic status of the farmers, lack of resources and focus on part of the state institutions, a hostile marketing system. Weekly exhibitions take place in various regions in the province, in rural as well as urban areas. The Market usually comprises a piece of land, rarely supported with some sheds. Availability of water and fodders for the animals and facilities for the attendants are lacking. Animal are transported from and to the markets and to the slaughter houses in extremely pathetic and inhuman conditions. The trucks are not comfortable for the animals and the huge dairy/beef animals are jam-packed, with very little space. The animals are exposed to severe stress and the environment is contaminated with animals' excreta, threatening public health with zoonotic diseases. Directive of the Ex Senior Minister Local Government and allocation of Rs.200 million under ADP were ignored. Establishment of an LBSC as a joint venture of Local Government, private partner under LTP was suggested.

Approval of the International Project Coordinator, FAO Peshawar, Mr Waleed Mahdi was obtained for paying visits to various universities and other public sector organizations as per practice at FAO Peshawar. The Report was submitted to Mr Farrukh Toirov on 31 August 2019 within the time limit of Agreement.

Evaluation of the Report

Dr Sanaullah Khan via his email dated 26 September 2019 (Annex-7) informed me about the recommendation of Evaluation Committee that the efforts of the Author were highly appreciated and was considered as really a good agenda for livestock development of KP, however, it is not in line with the strategic areas of KP approved Livestock Policy 2018. The same areas are reproduced below:

1. Animal Health and disease control
2. Animal Breeding and genetic Resource conservation
3. Veterinary Education, Research, Extension and Human Resource Development

4. Animal Nutrition
5. Livestock Marketing; and
6. Institutional Restructuring for Specialized Tasks

The livestock experts suggested the following:

1. To rearrange the report according to the policy strategic areas and propose actions against each policy strategic area with time line/road map and budget,
2. Any additional area you consider is very important for the development of Livestock and dairy development in KP and that is not covered under the above strategic areas in the policy, you may add as additional action.
3. Furthermore Dr Sanaullah Khan suggested that if the Author still feel further discussion they can hold a meeting with Dr. Afzal to further discuss the structure which will be facilitated by FAO.

The Author via email dated 7 October 2019 addressed to Mr Farrukh Toirov referred to his telephonic advice to Ms Faiza Youn for making the Consultancy Payment as per TORs. However, she told the Author that it has not been initiated yet. Mr Farrukh Toirov was requested to advise them to expedite the payment process. As far as comments of the review committee are concerned, these are beyond the Author's TORs communicated by FAO Islamabad. The Action Plan has already been prepared in line with TORs of FAO Islamabad and submitted to you on 31 August, 2019, the last day of consultancy as per Personal Service Contact signed on 19 June, 2019 with the FAO Representative. The Author is working on Part-II of the Action Plan to accommodate the committee's comments and it may please not be tied with my payment, as a detailed response may take about one to two months to complete.

However, as per Annex-9, email from Mr Farrukh Toirov Farrukh dated 14 October 2019, stated that ToR required the consultant to submit "Draft and finalize Livestock Action Plan". Draft of the document is already prepared but there were several comments from the colleagues that need to be incorporated in the document for finalization.

Hence, this part II of the report is being prepared as a quick response to the comments of the Committee recommending additional work beyond the TORs approved by FAO Islamabad.

Animal Health and Disease Control

Background

Sound animal health is required by the farmers to get maximum production, fertility and profitability out of livestock heads. Medium sized farmers keep animals for generating family income. Resource constraints compel the farmers to keep dairy buffaloes and cows in overcrowded sheds, with little attention on hygienic status. Nutritional status is mostly poor, exposing the animals to disease outbreaks. Foot and Mouth Disease affect the herds through a drastic decline in animal productivity and Hemorrhagic Septicemia outbreaks result in heavy mortality of adult and young stock. The farmers usually rely on home-made country medicine or self-medication. Private veterinary practitioners are engaged to treat their animals. Small subsistent farmers having easy access to the government veterinary hospitals are provided health coverage.

Civil veterinary hospitals in the public sector are managed by Directorate General Livestock and Dairy Development Extension wing. These hospitals treat sick animals and chit fees are charged mainly on the basis of number of animals treated. Targets are on monthly basis for collection of chit fees; a higher score reflecting better performance. It means that a hospital with higher number of sick animals would be considered successful as compared to another controlling occurrence of diseases. On one hand low quality medicines are purchased on lower rates as per current Public Procurement Rules through tenders bidding. Such medicines do not provide relief in animal health management, rather lead to emergence of multidrug resistant (MDR) microorganism. And on the other hand fees are charged in the name of chit fees from the farmers. Establishing new hospitals are in process through annual development and other public financing programs. Major portion of the staff and funds, is diverted towards this type of fire brigade treatment.

Veterinary Research Institute LRDD has been engaged in applied animal health research through its main division at Peshawar and regional veterinary research and diagnostic centers. University of Agriculture Peshawar and Khyber Medical University have been working on different aspects of One Health. National Veterinary Laboratory NARC Islamabad has been the national reference center for animal health.

Recommendations

1. Transformation of animal health services from fire brigade therapeutic approach for disease treatment towards preventive medicine, focusing on hygienic measures, disease eradication, quarantine measures and exploitation of economic potential of livestock and poultry assets held by the farmers. Resources allocation may be diverted to: i) improving hygienic status of animals and premises; ii) quality control for supply of toxin free feeds; iii) quality control of drugs, medicines and vaccine available in the market; iv) motivation of farmers for adopting innovations and improved practices; v) launching

demo models of innovation and feasible technologies under field conditions; vi) biorisk management for protecting animal, human health.

2. Disease reporting system already established for avian influenza may be reactivated for covering all essential livestock and poultry diseases detected at the Hospitals and AI Centres under supervision of KP One Health Committee (OHC) comprising One representative each of Microbiology Division LDD Res, DIO LDD Ext, Microbiology Section UAP, BRM Centre KMU and NVL NARC, with head-office at VRI Peshawar. The Committee would be reporting to Managing Board Livestock Technopark and getting support from FAO, WHO and OIE. This system would be backed up by software and hardware facilities for maintenance, transfer and management of diseases, policy decisions, disease notifications and farmers'/consumers advisory services, with main focus on Foot and Mouth Disease, PPR, Newcastle Disease, Hemorrhagic Septisemia, brucellosis, tuberculosis, rabies, CCHF. This Committee will also oversee the emerging diseases, the issue of multidrug resistant microorganisms (MDR) and quality control of drugs, medicines and vaccines used in the province, collaborated research studies and training of stakeholders. The Committee will take care of production of quality vaccine within the province at Veterinary Research Institute Peshawar, instead of importing vaccines from abroad.
3. Implementation of Special Service Incentives Package has been suggested in this Report under Policy Implementation Cell. A reasonable amount of Endowment Fund may be made available to the veterinary hospital/dispensary/center, ranging from Rs.0.5 to 5.0 million depending upon the adjacent animal population and farmers' interests. The Fund will be spent as per guidelines provided in Part I of this report. Veterinary Officer (Health) may be rewarded for his performance Indicators like introduction of farming innovations; decrease in the incidence of diseases; development of entrepreneurship models; establishment of private veterinary clinics, number of field days held, number of pamphlets published/distributed, etc. The progress may be reported on annual basis and considered for payment of honoraria and promotion to higher positions. Institutional based practice may be introduced on the analogy of health department in the province.
4. Associations of livestock and poultry farmers may be established at local level for protecting interests of farmers, training of farmers, establishment of common facilities centres and marketing support through bulk purchase, sale and establishment of animal breeding, livestock feeds, milk and meat processing facilities.
5. Pilot projects may be launched at some hospitals at divisional levels and extended to rest of the areas in due course of time in a gradual manner. Each hospital may be supervised by a Management Committee defined as Institutional Unit under the Legal Framework for Livestock Technopark Peshawar, in Part I of this Report.
6. FAO and the International Telecommunications Unit (ITU) may assist the provincial government in establishing a livestock-tracking blockchain system for smallholder small ruminants and cattle farmers. Using radio-frequency identification (RFID) tags and a smartphone app, farmers can keep digital records of how they raised their animals, dietary status and administration of antimicrobial drugs and vaccines. This will assure

the buyers of their animals' quality, while farmers can earn a fairer return on their investment. Such a system was piloted in Jiwaka province of Papua New Guinea. Health and Breeding Management of the animals may be facilitated. Traceability of products is a requirement for importing livestock products by various countries and such a system would qualify local products for export.

Animal Breeding and Genetic Resource Conservation

Artificial Insemination Centers are important functional units of the Directorate of Breed Improvement, LDD Department Extension Wing. These Centers are equipped with liquid nitrogen containers, semen of local, crossbred and exotic animals and other essential inputs. Veterinary Officers Health and Veterinary Assistants are working at these centers along with supporting staff. The local cows of non-descript breeds are crossbred with semen from exotic, crossbred and local breeds of cattle and buffaloes. Breedable animals are brought to the Centers for Artificial Insemination after commencement of detected estrus. Frozen semen is produced at Semen Production Unit Harichand from Holstein Frisian, Jersey, Achai and Crossbred bovine bulls and Nili Ravi dairy buffalo bulls.

Local breeds like Achai cattle and Azakheli dairy buffalo are conserved and stock of exotic breeds like Holstein Frisian, Jersey and crossbreds are maintained at various state farms in the Extension and Research Wings of LDD and University of Agriculture Peshawar. As per KP Livestock Policy 2018, Khyber Pakhtunkhwa province has got twelve breeds of sheep of which three are at the verge of extinction and purity of Hashtnagri and Tirahi is questionable. Crossbreeding of local Kaghani sheep with exotic Rambouillette has resulted in creation of a new breed called Ramghani. Provincial sheep population contribute 80% of the local mutton production and almost 100% of the carpet industry. There are six goat breeds in the province out of which only three are documented. Equine, camel and rural poultry are important natural resources of the province, however, no special attention could be made in the past for development of these resources.

Recommendations:

1. Documentation of local breeds of cattle, buffaloes, sheep, goats, poultry, camel, etc, at phenotypic and genetic levels, including its population and distribution. Academia-Industry-Government-Society Nexus may be applied through a KP Livestock Breeding Committee (KPLBC) comprising one representative each from: i) UAP, ii) LDD Ext, iii) LDD R, iv) KP Livestock Farmers Association, v) Dairy Cattle Farmers Association Pakistan (DCFA) and; v) NARC. KPLBC will report to Managing Board, Livestock Technopark Peshawar. This Committee will also: i) review the livestock and poultry breeding programs in the province on annual basis and submit recommendations for improvement in the public and private sector; ii) Oversee the quality of semen produced at government and private semen production units in the province as well as semen and embryos marketed in the province; iii) register elite livestock herds/poultry flocks in the province; iv) issue advisory to the farmers regarding breeding and quality of inputs.

2. Animal Recording System would be introduced in the province for keeping an inventory of elite animals in various breeds and make it available to farmers under an e-marketing system. A software will be developed for keeping record of the registered farms and elite animals, regarding their health status, breeding status, economic parameters and marketing requirements. The District Artificial Insemination Centres would be considered as Institutional Units of Livestock Technopark Peshawar and would be utilized for this purpose. Import/export requirement for the local/exotic animals, semen and embryos would be responded.
3. Public private partnership would be introduced for establishing elite livestock/poultry herds/flocks under an Open Nucleus Breeding System. The farming community would be provided elite animals for further breeding and elite animals would be procured from the farming community to keep genetic diversity at the elite herds/flocks.
4. Reproductive Biotechnologies would be introduced in the provincial livestock and poultry production system for improving fertility, genetic potential, neonatal viability, oxidative stress management, growth rate, puberty onset and other economic parameters in livestock and poultry. The state farms would be utilized for establishing Centres of Excellence in such biotechnologies. Such activities would be managed by a Committee on Reproductive Biotechnologies comprising one representative each from LDD Ext, LDD Res, UAP, NARC and LFWA, with headquarters at Breed Improvement Directorate LDD Ext. Resources would be provided through the Livestock Business Support Centres in various parts of the province under the Livestock Technopark Peshawar.
5. Implementation of Special Service Incentives Package has been suggested in this Report under Policy Implementation Cell. A reasonable amount of Endowment Fund may be made available to the veterinary hospital/dispensary/center, ranging from Rs.0.5 to 5.0 million depending upon the adjacent animal population and farmers' interests. The Fund will be spent as per guidelines provided in Part I of this report. Veterinary Officer (Health) may be rewarded for his performance Indicators like introduction of farming innovations; decrease in the incidence of diseases; development of entrepreneurship models; establishment of private veterinary clinics, number of field days held, number of pamphlets published/distributed, etc. The progress may be reported on annual basis and considered for payment of honoraria and promotion to higher positions. Institutional based practice may be introduced on the analogy of health department in the province.

Veterinary Education, Research, Extension and Human Resource Development

Veterinary Education has been covered in main body of this report extensively, covering University of Agriculture Peshawar (UAP), Gomal University (GU) DI Khan, Abdul Wali Khan University Mardan (AWKUM), Women University Mardan (WUM), Swat University (SU), Shaheed Benazir University (SBBU) Sheringal Dir and Khyber Medical University (KMU) Peshawar. Directorate General LDD Research has been provided with the headquarters of Livestock Technopark Peshawar, three Livestock Business Support Centers at main office, VRDC Kohat and VRCD Abbottabad. The following facilities have been proposed for these Centers of Excellences:

The Universities

1. **Dairy and Meat Technology Center (WUM):** Dairy and Meat Technology Center (DMTC) would be established at Women University Mardan with the main objectives of empowering women to establish food/quality control related business models and protecting women health through food and animals' handling and working in research and diagnostic laboratories related to life sciences. Establishment of Dairy Technology Center is recommended. Infrastructure grant Rs.50 million; Endowment Fund 50 million.
2. **Accreditation of DVM and postgraduate degrees (AWKUM):** Abdul Wali Khan University Mardan may be advised an earlier appointment of the deficient staff; and meeting the required deficiencies pointed out by the PVMC. Pakistan Medical Council (PVMC) Islamabad may be advised for immediate restoration of DVM admissions and accreditation of the degree programs running at Faculty of Animal Husbandry and Veterinary Sciences, AWKUM. Proposed non-lapsable grant: 50 million
3. **Livestock Business Support Center Mardan (AWKUM):** No formal slaughter house is available for meat production and animals are slaughtered at unauthorized places without appropriate inspection by the experts or quality control measures. Awareness campaigns for hygienic and cost effective livestock health and production are at minimum level. Various types of taxes are imposed on livestock and poultry activities; however, food production is a business with the minimum level of profitability around the globe and is subsidized in the advanced countries. It is suggested that Livestock Business Support Center (LBSC) Mardan may be established as a university outreach facility at AWKUM, to be managed jointly by the University (2 members), Local Government Department (1 member) and Livestock Farmers Welfare Association/processors Mardan (4 members). Proposed Endowment Fund: 50 million
4. **Gomal Technopark at Gomal University:** Based upon the expertise available at the University and the huge resource base available in the DI Khan district and the southern Khyber Pakhtunkhwa, the participants agreed on establishing Gomal Technopark (GTP). GTP, with a management board having full legislative, financial and administrative powers. An Endowment Fund would be established to the tune of Rs.500 million, to be provided with the same ratio by the university/public sector in the form of money and by the private sector in the form of land,

animals and other assets. The fund would be used for entrepreneurship development and the facilities required for relevant on-campus and off campus activities.

Infrastructural Support Fund FVAS GU: The existing laboratory setup for poultry sciences, pathology, microbiology, parasitology, animal reproduction, dairy/meat technology and quality control services and animal nutrition would be strengthened through equipment and essential building/renovation requirements. i) Poultry farm will be upgraded further with the installation of solar incubator and the capacity for poultry and quail farming would be enhanced. Training will be imparted in poultry and quail farming. ii) A small sized demo feed mill will be established at FVAS which will prepare feed at the rate of 1 ton/ hour.; iii) Information communication system will be established to link the commercial farmers, processor, marketing partners and service providers with the Faculty.; iv) Establishment of a canine breeding Centre and two dairy sheds. Prevention would be the motive rather than the treatment; hidden losses to the farms, not recognized by the farmers, would be identified and rectified; v) Establishment of demonstration chilling/pasteurization unit for milk and meat pasteurization, processing and preservation; vi) Installation of solar and diesel generator. Proposed Endowment Fund: Rs.250 million (Equal amount will be provided by private partners in form of assets; Development Grant Rs.100 million

5. SBB University Sheringal: During 2014 M Phil program was initiated in Livestock Management and Poultry Science and inducted four faculty members at SBB University Sheringal. A PC-I has been approved providing an academic block, dairy farm, beef farm, sheep and goats farm and controlled poultry shed. Tenders have been floated for procurement of items. Approval of the F&PC, Academic Council and the Syndicate is awaited. Pakistan Veterinary Medical Council paid a zero visit for evaluation of M Phil Program, three years back. However, the minutes have not been issued till this date, despite repeated requests. The Governor Secretariat has issued a letter for stopping admissions at the department which has been complied. It is recommended that: i) Approval of the statutory bodies may be obtained at an earliest as the Animal Science Program is essential for development of the Dir Region with rich resource-base in the form of ranges, pastures and small ruminants providing an important livelihood support to the people; ii) Implementation of the PSDP project Development of University of Dir Sheringal, covering academic building, cattle sheds and poultry sheds; iii) implementation of PVMC recommendation regarding deficiencies in staff, etc. PVMC is requested to cooperate with the newly established veterinary institutions and allow them to grow instead of expected too much of the required standards; iv) establishment of a Meat Technology Center for research on quality parameters of meat and business incubation, farmers support services in meat farming and marketing. Endowment Fund: Rs.10 million
6. Livestock Business Support Center – UAP: This Mission recommends establishment of a Livestock Business Support Center - UAP with an Endowment Fund and joint management committee comprising with membership as: UAP 2, LDD Ext 1, LDD Res 1, LTP 1. LBSC will support applied research connected with industrial issues and entrepreneurship development for generating decent employment and exportable surpluses. The Center would ensure an active and visible interaction among the academia, industries, government and the civil society, to provide feasible solutions to the emerging issues faced by producers, processors, service providers, marketing partners and consumers. Farming innovations would be introduced like introduction of biotechnologies, solar technologies, food technologies and bio-waste management across the livestock based food value chain. Entrepreneurship models would be developed in livestock. poultry and fish production, processing, quality control, diagnostics,

veterinary clinical, processing, marketing and legislative services, as source of decent employment and exportable surpluses. Some examples may be establishing milk, meat and eggs shops; fodder production facilities; fodder seeds shop; silage plants; minislaughter houses, livestock/poultry/fisheries/other farming, also including fancy birds, pets, rabbits, ostrich, or others; processing, packaging milk, meat and eggs; marketing at district, provincial or international levels. Veterinary clinics, diagnostic laboratories or biotechnological products processing or any other related facilities would be encouraged. Graduate interns and postgraduate scholars would be engaged in these activities under an incentive package. Endowment Fund of Rs.100 million; Non-lapsable development grant: Rs.50 million

7. Biorisk Management Center KMU: On advice of the Vice Chancellor KMU and Dean Public Health and Social Sciences, KMU, Dr Yasir and Dr Nauman visited FAO Peshawar Office for consultation on Biorisk management collaboration under the FAO KP Livestock Action Plan. It was agreed to establish Biorisk Management Center at KMU, by renaming the Food, Environment and Water Lab, under guidelines of the MoU already signed with DSP, UAP and HEC. The Center would be responsible for: i) launching One Health program at postgraduate level; ii) bio-waste management at KMU and other facilities of Livestock Technopark Peshawar; iii) collaborative research. Cost Development grant Rs.20 million; Endowment Fund Rs.20 million
8. LBSC Swat: Livestock Business Support Center Swat will be established at University of Swat (UOS) with joint management of SWS in collaboration with LDD Research, LDD Extension and District Government. Swat University is running Center for Animal Science and Fisheries, Center for Biotechnology and Microbiology, Department of Environment and Conservation and Center for Management and Commerce, would participate in the joint venture through diploma courses, laboratory analysis, field trials and training programs in livestock, fisheries, poultry, sheep and goats. Entrepreneurship, public health and food productivity aspects of the livestock assets would be explored. A visit was made to Khwazakhela Swat to discuss the prevailing issues with the stakeholders. It was suggested that the services provided by various department may be improved and coordinated. The available medicines in government veterinary hospitals were of inferior quality and unauthorized veterinary practitioners are damaging farmers profitability and products quality. Inspection team/departments responsible for quality control and price fixation were identified as a hurdle in the milk and meat marketing. Establishment of a modern slaughterhouse with proper space and facilities, was recommended. The role of butchers and milk salespersons were explained and these facilities were recommended for further support to create opportunities of decent employment generation and production of exportable surpluses. He suggested establishment of an entrepreneurship network in the form of modern farms and processing factories with branded milk and meat products for local market, provincial and federal capital and even export. Meat export potential was highlighted, for which the Swat Airport could be utilized and meat in the region could be exported to Muslim Regions. Endowment Fund: Rs.50 million.

LDD Research Wing

1. Livestock Technopark Peshawar: LTP may be established as an Academia-IndustryGovernment Nexus model of shared authorities and responsibilities, based on propagation of SMART entrepreneurship models developed through academia-industry interaction covering United Nations SDGs 2,3, 5, 7, 8 and 16, and the local culture with a final target of generating decent

employment and exportable surpluses across Livestock-Based-Food-Value-Chain. LTP envisions generating decent employment and exportable surpluses across livestock based food value chain. Mission of LTP includes introducing Academia-Industry-Government-Society nexus of governance model, facilitating entrepreneurship development across livestock based food value chain, backed up by quality control, traceability and forward/backward marketing linkages. Endowment Fund: Rs.340 million; Development Grant: Rs.350 million, for various infrastructural and operational activities. 4. Laboratories Accreditation: Laboratories of Microbiology, Biotechnology, Parasitology, Animal Nutrition, Dairy Technology and Vaccines Production at Veterinary Research Institute (VRI) Peshawar, covering BQV, HSV, ASV, ETV, NDV and FM, may be accredited; initially with Pakistan National Accreditation Council (PNAC)/Drug Regulatory Authority of Pakistan (DRAP) and later on with International Organization for Standards (ISO). Funds required, non-lapsable grant: Rs. 100 million

2. Vaccine Research and Transformation Program: VRI Peshawar has already demonstrated an effective setup of PLA Revolving Fund, ensuring timely supply of the desired items qualitatively and quantitatively. The current size of PLA is appreciable and is the only source supporting such an excellent activity. For supporting indigenous vaccine production, import substitution and saving foreign exchange, Vaccine Research and Transformation Program is suggested as a component of Livestock Business Support Center VRI. The current PLA may be enhanced to under new terms and conditions for quick procurement and auction process, incentivizing the relevant staff through share in income and assuring capacity enhancement of the relevant labs in applied research and field trials, for meeting the needs of local and international market. Funds required: PLA: Rs.50 million; Non-lapsable Development Grant: Rs.100 million
3. Establishment of Veterinary R&D Center Merged Areas: Veterinary R&D Centers may be established in the Merged Areas (former FATA) of Khyber Pakhtunkhwa to be located at Khar Bajaur, Landi Kotal, Parachinar, Miranshah and Wana. This setup will be managed by a joint committee at DG level. Funds required, Endowment Fund: 100; non-lapsable grant: Rs.170 million
4. Feeds and Fodders R&E Program: Feeds and Fodders Research and Entrepreneurship Program may be established at LDD Research through outreach linkages with farmers and sister organizations. Endowment Fund: Rs.40 million
5. Livestock Business Support Center (LBSC) VRI: LBSC may be established at VRI in close coordination with the Livestock Technopark Peshawar, for applied research, training of officers/farmers/civil society representatives and establishment of business incubation and entrepreneurship development facilities with the cooperation of commercial farmers, products processors and marketing partners in the private sector and the universities. Linkages with the commercial farmers would be strengthened through the proposed LTP for organizing joint awareness programs regarding vaccination, applied research and diagnostic services at community level. LBSC would follow the Financial Rules developed for LTP. Endowment Fund 70 million.
6. Feed Mills Leasing: The feeds mills available at state farms and the Universities would be leased out to KP Livestock Farmers' Association/private sector at reasonable rates; applied research and students' internship would be utilized for quality maintenances of the products to be

supplied to livestock and fish farmers. An Endowment Fund of Rs.20 million. This activity would be covered under LBSC. Endowment Fund of Rs.20 million

7. Students' Internship: Paid internship for DVM students from KP universities, in various areas of specialization, arranging research facilities targeting at providing solutions to the industries and development of entrepreneurship models. This activity would be covered under LBSC. Endowment Fund 50; Non-lapsable Grant: Rs.10 million
8. LBSC Kohat: Livestock Business Support Center is recommended to be established at Veterinary Research and Diagnostic Center (VRD) Kohat. This would be a satellite remote component of LTP. It will support the farmers in improving their farm productivity, products quality, business viability and forward/backward linkages of the entrepreneurship models. The farmers and other stakeholders may be advised to get registered with the Farm Services Center presently and with Livestock Business Support Center Kohat later on; pay the due fees and get the desired support for their respective livestock related business activities. LBSC will also host an Advocacy Forum comprising stakeholders representatives to accommodate concerns of all, like price fixation, food quality, business viability and replication, etc. Livestock value chain is generating many business models like farming, animal trade, milk processing and trade, meat processing and trade, service delivery, etc. Such businesses are at their primitive stage and need to be exempted from all type of taxes for the next 10 years. Endowment Fund of Rs.50 million.
9. LBSC Abbottabad: Livestock Business Support Center is recommended to be established at Veterinary Research and Development Center Abbottabad, a divisional headquarter. The Center will cover livestock activities in Abbottabad, Haripur, Mansehra, Batagram and Kohistan districts. Cattle, buffaloes, sheep, goats, camels and poultry population of the region is 0.79, 0.53, 0.32, 1.57, 0.004 and 3.68 million heads. Buffaloes, goats and poultry would be focus of entrepreneurship, based upon the livestock population as per Livestock Census. This would be a satellite remote component of LTP. It will support the farmers in improving their farm productivity, products quality, business viability and forward/backward linkages of the entrepreneurship models. The farmers and other stakeholders may be advised to get registered with the Livestock Business Support Center Abbottabad; pay the due fees and get the desired support for their respective livestock related business activities. LBSC will also host an Advocacy Forum comprising stakeholders representatives to accommodate concerns of all, like price fixation, food quality, business viability and replication, etc. Livestock value chain is generating many business models like farming, animal trade, milk processing and trade, meat processing and trade, service delivery, etc. Such businesses are at their primitive stage and need to be exempted from all type of taxes for the next 10 years. Endowment Fund of Rs.50 million.

Animal Nutrition

The KP Livestock Policy 2018 has highlighted various deficiencies in the area of animal nutrition like scarcity of land for fodder production, scarcity of fodders leading to shortage of green fodders availability and lack of technologies for fodder processing, like silage and hay making, etc.

Main body of this Report has suggested launching of Feeds and Fodders Research and Entrepreneurship Program to be established at LDD Research through outreach linkages with farmers and sister organizations, backed up with an Endowment Fund of Rs.40 million. Livestock Business Support Center (LBSC) VRI suggested to be established at VRI, would help in resolving these issues through applied research, training of officers/farmers/civil society representatives and establishment of business incubation and entrepreneurship development facilities with the cooperation of commercial farmers, products processors and marketing partners in the private sector and the universities. Linkages with the commercial farmers would be strengthened through the proposed LTP for organizing joint awareness programs regarding applied research at community level.

A silage production facility was established by Khanzada Ahmed Kamal at Mardan. USAID Agribusiness Support Program provided him training and the equipment on subsidized rates. This facility has started producing silage on preliminary pilot basis. Maize fodder is being used as the crop for production of silage. ILRI has been sponsoring Mr Nadir Khan, PhD Scholar Animal Nutrition UAP to work on silage production using various maize varieties under local conditions. Romer Lab Rawalpindi has provided inoculums and commercial farmers have provided land for the experiment. Joint ventures would be initiated under LBSCs for replicating such models.

The Cattle Feed Mill of University of Agriculture Peshawar was run under a lease arrangement with a private partner. It has provided a gateway to the University System for applied research and an effective outreach setup for the mediums sized commercial livestock farmers. The Faculty members and postgraduate students had been utilizing these facilities for applied research and getting feedback from the farmers utilizing these products. Alternate feed resources were explored and new technologies were developed for enhancing feed utilization by the livestock and poultry species. Feasibility models were developed for entrepreneurship in meat production. LBSCs would work on such models. The feed mills available at state farms and the Universities would be leased out to KP Livestock Farmers' Association/ private sector at reasonable rates; applied research and students' internship would be utilized for quality maintenances of the products to be supplied to livestock and fish farmers. Specialized Feeds would be produced for various categories of dairy and beef cattle, sheep, goats, fish, equines and camels. Collaborative Research would be conducted on nutritional aspects at state farms and private farms. An Endowment Fund of Rs.20 million would be provided. Paid internship for DVM students from KP universities, in various areas of specialization, arranging research facilities targeting at providing solutions to the industries and development of entrepreneurship models. This activity would be covered under LBSC with an Endowment Fund of Rs.50 million and non-lapsable Grant of Rs.10 million.

Livestock Marketing

KP Livestock Policy 2018 has reflected the willingness of the provincial government to promote greater role of the private sector in the poultry, dairy and meat value chain. The Policy envisions to have a competitive and efficient livestock industry leading to food security and commercialization. The prevailing marketing system has resulted in sub optimal performance of the sector characterized by lack of grading of livestock and livestock products, low awareness about fattening of animals, inadequate infrastructure and poor handling of livestock products.

Main body of this Report has stated that, “Keeping in view the present shape of the Department, the governance structure doesn’t protect interests of the stakeholders across the food value chain impeding the productive utilization of the state and peoples’ resources. The emerging entrepreneurship models are facing hardships in surviving under the hostile marketing and governance system. Quality of food produced at farms is not evaluated for being beneficial to the health of the consumers.” It is not supporting the good workers at research organizations or the universities to transform their ideas into development of feasible business models and ensuring farming innovations under health, breeding and feeding management at the extension/research organizations or business incubation at the universities. Majority of the workers in the public sector organizations feel safe if they do not work, otherwise, they are chased by the audit people and Accountability Organizations for violating public procurement Rules.

Main body of this Report has suggested business Incubation as the only remedy for entrepreneurship development on modern lines and to make it compatible with the market demands, consumers’ preference and acceptability of the community and cultures. University of Agriculture Peshawar, has tried its best to develop such models through university industry interaction as business incubation models, under deanship of the author for two tenures. Postgraduate thesis research was redesigned to meet expectations of the industry and civil society and train the postgraduate scholar as a scientist as well a potential entrepreneur.

The essential assets are available with the farmers in the form of sheep, goats, cattle, buffaloes, camels, poultry, quails and even ostrich. The farmers have got the basic skills in farming and management of health, breeding and feeding of animals. There is a need to convert these valuable assets into viable entrepreneurship models. The proposed Livestock Technopark Peshawar would facilitate Academia-Industry interactions to develop feasible entrepreneurship models through introducing good production practices in the production system, improving the health and immunity of animals, decreasing the per head productivity costs, ensuring traceability of animals and products, providing disease diagnostic, therapeutic, quality control and laboratory services through public and private partners, availability of high quality animals and farm inputs, sale of surplus animals and farm products, insurance in case of farm losses and addressing other associated issues. The efforts of the Park would be supplemented by LBFCs and other regional bodies.

Institutional Restructuring for Specialized Tasks

Main body of this Report has mentioned that under the present system, focus of the public sector organization has been on: i) Livestock Extension, breeding and health coverage; ii) Livestock Research, vaccine, diagnosis and nutrition; iii) Livestock Education in veterinary medicine; iv) Agric Extension/Research, Fodder/Crops Production & Mngt; v) Deputy Commissioner, price capping, no Quality Control; vi) Legal courts, export ban; vii) SMEDA, little attempts; viii) KPCCI, low priority; ix) Public Health Services, low priority; x) ORIC Offices of Universities, underutilized. Overall impact of negligence of livestock resource base mobilization has resulted in missing of entrepreneurship/ exports/ Quality Control/ Traceability/ Halal concept across livestock based food value chain.

Livestock Technopark Peshawar (LTP) is proposed to be established as an Academia-Industry-Government Nexus model of shared authorities and responsibilities, based on propagation of SMART entrepreneurship models developed through academia-industry interaction covering United Nations SDGs 2, 3, 5, 7, 8 and 16 as UN SDG Action 9671, local traditions and culture with a final target of generating decent employment and exportable surpluses across Livestock-Based-Food-Value-Chain. Initially the LTP would be notified as a Task Force and later on it will be established through a legislative act of the provincial assembly or Ordinance of the Governor.

LTP will be an autonomous authority with full regulatory, administrative, financial and legislative powers to protect all the stakeholders of the livestock industry, and to engage all the relevant private and public sector organizations in the process. This would create an enabling environment for the growth of the emerging entrepreneurs, through a coordinated approach, targeted at generating decent employment and exportable surpluses. A balance approach would provide a level playing field to all the stakeholders and ensure a private sector led growth as per international standards. The Managing Board of Livestock Technopark Peshawar would comprise one representative each of: i) DG LDD Ext; ii) DG LDD Res; iii) DG Fisheries; iv) Dean FAHVS UAP; v) Secretary Local Council Board; vi) VC WUM; vii) KP-LFA; viii) Poultry Farmer; ix) Fish Farmer; x) Feed Processor; xi) Dairy Processor; xii) Meat Processor; xiii) KPCCI; xiv) KP FSHFA and; xv) MPA.

An Endowment Fund would be established to the tune of Rs.1.6 billion through provincial/ federal/ donors grants. The private sector would offer their land, animals, building and other assets for a period of at least five years with investment by LTP and operational arrangement by the private partner. The fund would be used for entrepreneurship development and the facilities required for relevant activities. The net profit, to be determined by a joint committee of the private partner and the LTP, would divide the profit at a ratio of 80:20, respectively. A non-lapsable Development Grant of Rs1.4 billion would be provided for various infrastructural and operational activities.

Institutional Units-LTP would be established as: i) LPIC LDD Ext; ii) LBSC CVH Bannu; iii) LBSC Merged Areas; iv) LBSC VRI; v) LBSC VRDC Kohat; vi) LBSC VRDC Abbottabad; vii) LBSC Fisheries; viii) LBSC

SH LCB; ix) DMTC WUM; x) LBSC AWKUM; xi) GT GU; xii) MTC SBBU-S; xiii) LBSC UAP; xiv) BRMC KMU; xv) LBSC UOS. For managing each IU-LTP, except Policy Implementation Cell (PIC), the Management Committee would comprise two members from the respective host organization; two members from other relevant public sector organizations; two members from the industry; and one member from district/tehsil council. Management Committee for PIC comprising experts in animal health, breeding, training, research, vaccination, education, farming, products processing, entrepreneurship and media. Committee of Institutional Units (CIU) of LTP would be established comprising one member from each Unit and a representative of the Chairman LTP. Each IU-LTP would report to the Management Board LTP and the progress, requirements, technical programs, etc, would be reviewed CIU.

Entrepreneurship Units would be established as: i) Dairy Farming; ii) Beef Farming; iii) Mutton Farming; iv) Poultry Farming; v) Fish Farming; vi) Pets Farming; vii) Nontraditional Farming; viii) Vet Clinics; ix) Analytical Labs; x) Inputs Suppliers; xi) Renewal Energy Providers; xii) Legal Advisors; xiii) Innovators; xiv) Meat Shops; xv) Dairy Shops; xvi) Meat Factories; xvii) Dairy Factories. The Entrepreneurship Units would be registered with the Registrar of Firms, Government of Khyber Pakhtunkhwa and organized into an a registered “Society of Livestock Entrepreneurships, Livestock Technopark Peshawar”.

The Livestock Technopark Peshawar will engage and train the DVM unemployed graduates as well as in service veterinarians to visit the registered farmers on monthly basis for observing the animals’ health and productivity cases with special emphasis on the hidden losses due to bad hygiene, parasitic infestation or toxic feeds. The veterinary practitioner will act as animal healers, public health protectors as well as economy boosters. All the three aspects would help the farmers to get maximum benefits out of minimum investment, producing milk, meat and eggs with the qualities of accepted standards, through our registered labs. Engineering, medical, business and other graduates in natural and social sciences would be motivated to establish services in their respective areas.

LDD Ext Department would be engaged in developing special training modules for entrepreneurship development. They will host the Policy Implementation Cell and collaborate with LTP and its regional bodies. The hospitals would be utilized for shifting their therapeutic approach in disease control towards preventive and business advisory one. The outdoor cases would be encouraged and institutional based practice would be allowed on the analogy of medical doctors provided under Khyber Pakhtunkhwa Medical Teaching Institutions Reforms Act, 2015. The veterinary doctor would utilize his skills as animal healer, public health protector and economy booster. The Policy Implementation Cell would help in farming innovation and commercialization, providing an enabling environment for entrepreneurship development. New breeding innovations would be developed and introduced for enhancing growth rate, fertility and fecundity of animals.

LDD Res would work on applied research to control diseases, vaccine improvement and commercial production and advanced research in collaboration with the universities. They would help in

Biorisk management research and development in collaboration with Khyber Medical University and University of Agriculture Peshawar. They will host Livestock Technopark Peshawar and LBSCs at Peshawar Kohat and Abbottabad and collaborate with LBSCs at other locations.

Secretary Local Council Board KP would appoint “Focal Point for Livestock Technopark Peshawar” to support improvement in livestock markets and slaughter houses and in implementation of the joint ventures with Munir and Co Slaughter House, Ring Road Peshawar and other relevant issues. Directorate General Fisheries would host LBSC Fisheries and would implement the fisheries components of the functions of Livestock Technopark Peshawar.

UAP would utilize the human resource base available in the form of highly qualified faculty members and enthusiastic postgraduate students for responding to the emerging industrial issues and developing entrepreneurship models. The Livestock Business Support Center at UAP would be utilized extensively through international linkages, especially under an MoU with the Konya Technopark, Turkey and other organizations developed under Dairy Science Park.

The universities would contribute as follows: i) Swat University would host the LBSC Swat; ii) AWKUM will host LBSC Mardan; iii) WUM will host Dairy and Meat Technology Center; iv) Gomal University will host Gomal Technopark; v) Khyber Medical University will host BRM Center; vi) University of Agriculture Peshawar will host LBSC UAP and; vii) SBBU Sheringal will host meat technology center.

Livestock and poultry farmers are provided feeds, semen, medicine and other farm inputs by commercial companies. Most of the times these inputs are not quality tested, nor cost-effective. The feed companies supply feeds and their salesmen convince the illiterate farmers to feed the animals more and more. And as mentioned already in this document, this leads to excess intake of proteins, leading to ammonia and urea toxicity and losses in milk productivity, fertility and profitability of the farms. The Board will test the farm inputs in various partner laboratories and the per unit productivity cost would be determined. Cost effective farm inputs would be made available at the Livestock Business Support Centers and other associated facilities. Feeds would be tested for nutrients availability and toxins presence through laboratory analysis and through growth, fertility and productivity trials, Semen would be tested for fertility and genetic potential through field trials at registered and experimental farms, engaging postgraduate students.

Peshawar Meat was established as an entrepreneurship model for providing Hygienic and Halal tested beef and mutton to Peshawar. It could not survive due to price capping form meat by government, lack of animals supplies to the factory and lack of sale points. The specially prepared beef through rearing calves, has to compete with culled old buffaloes at the end of lactation, or diseased and injured animals. The production cost of such animals is far lower while the production of prime beef would cost at least double this amount. However, the prices of beef and mutton are fixed at flat rates, irrespective of qualitative grading. Such a practice discourages growth and survival of young

entrepreneurs, struggling for finding a graceful living in the society, while the shops with unhygienic and low quality products goes on working in an uninterrupted manner.

Establishing a network of entrepreneurship would solve the issue. A farming entrepreneur would be producing cost effective quality products to the factories, he will get inputs from the quality tested, registered suppliers, registered vets, analytical labs and other service providers; and he will supply his products to the registered factories and products marketing dealers. There would be a win-win situation for everyone. New graduates would find it easy to enter the chain at any point of the entrepreneurship network. Buffaloes are brought to major cities of the province from Punjab and sent to slaughter house after getting milk for few months. It drains the genetic potential of buffaloes towards trash and puts financial burden on local farmers, purchasing a fresh buffalo on higher rates.

Establishment of salvage farms for rearing and caring of dry animal in remote areas of the province would prevent the animals from slaughtering and maintain the genetic pool of best breeds of livestock population. Establishment of model dairy farms for the purpose of extension, research and business demonstration at regional level under partnership with the private sector, would popularize the innovative farming models in the province, for further replication. Establishment of modern slaughter houses with advance facilities through joint venture will ensure the production of quality meat to the consumers and to be used for research purposes targeted at meat industry expansion and provision of Halal Meat to the entire Muslim community.

Annex-1; Emailed offer for appointment

Consultancy Offer- National Consultant Livestock and Dairy Development

Younas, Faiza (FAOPK) <Faiza.Younas@fao.org> Fri, May 31, 2019 at 8:13 AM To: "drmsqureshi@gmail.com" <drmsqureshi@gmail.com> Cc: "Khan, Sanallah (FAOPK)" <Sanallah.Khan@fao.org>, "drmsqureshi@aup.edu.pk" <drmsqureshi@aup.edu.pk>

Dear Dr. Muhammad Subhan Qureshi

We are pleased to offer you a consultancy as National Consultant Livestock and Dairy Development, duty station Peshawar to start from as soon as earliest, 31 August 2019 for 45 Working Days, remuneration @ USD 110 per day (Payable in PKR @Prevailing UN Exchange Rate), paid according to payroll schedule. Out of this amount a deduction equal to 0.45% shall be made for contribution to compulsory medical insurance scheme.

Above offer is subject to receipt of:

Medical certificate stating fitness for work · Declaration of non-employment of the family members · Personal data sheet · Designation of Beneficiary form · Copies of educational degrees · Taleo profile by following this link: [http://www.fao.org/employment/irecruitment-access/en/\(mandatory\)](http://www.fao.org/employment/irecruitment-access/en/(mandatory)) · Bank Account Information · Two Passport size pictures · Copy of NIC

Please find below the documents pertaining to your appointment:

Terms of Reference · Manual Section 319 · Medical Insurance Plans (MCS)

B-Safe Training Certificate

The training programs can be accessed online from the following websites:

10/17/2019 Gmail - Consultancy Offer- National Consultant Livestock and Dairy Development

<https://mail.google.com/mail/u/1?ik=f8876ed089&view=pt&search=all&permmsgid=msg-f%3A1635015647184711523&siml=msg-f%3A1635015...> 2/2

B-Safe Security Training: https://training.dss.un.org/courses/v21/pages/dss_login_register.php (You must go through a very brief registration process first if you are a new user.)

Upon completion of training course, an automated certificate will be issued in your name which is valid for three years.

Kindly confirm your acceptance and send the required documents to this office at your earliest convenience.

Regards, Faiza

Faiza Younas HR Officer

FAO Representative Office, PO Box: 1476, NARC Premises

Park Road, Chak Shahzad, Islamabad-PAKISTAN

Phone: (+92-51) 925-5491 (222), Fax: (+92-51) 925-5454

Email : faiza.younas@fao.org, Web: www.fao.org

Annex-2; TORs for National Consultant Livestock and Dairy Dev



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Terms of Reference for Choose an item. *

Name:	
Job Title**: National Consultant Livestock and Dairy Development	
Division/Department: FAO Pakistan	
Programme/Project Number: TCP-PAK 3701-C1	
Duty Station: Peshawar	
Expected Start Date of Assignment:	15 June 2019
Duration:	45 Days
Reports to:	Farrukh Toirov
Title:	AFOR Program

* Please note: If this TOR is for Consultant / PSA.SBS contract, the minimum relevant experience required for the assignment is as follows:

1 year for a category C

5 years for a category B

12 years for a category A

** Please enter a short title (max 25 chars) for this assignment.

GENERAL DESCRIPTION OF TASK(S) AND OBJECTIVES TO BE ACHIEVED

The overall objective of the consultancy assignment is to develop an Action Plan for livestock sector development and transformation based on the KP Livestock policy. The plan shall mainly address policy implementation and regulatory issues, value chain development, private sector engagement and overall required capacity at provincial and districts levels. Furthermore, the consultant shall delineate a strategy on promoting market oriented production approaches through improved and specialized production modalities. The Action Plan document will have detailed implementation and management arrangements as well as a coherent monitoring and evaluation framework to achieve targeted outputs in the specified period. The overall thrust of the consultancy service is to develop a program that would facilitate and enhance incomes and living standards of Livestock smallholders and farmers in all production zones by promoting commercialization, through support to market oriented production, improved market efficiency and value addition of three key livestock commodities: dairy, red meat from cattle, sheep, goats; and poultry. Within the commodity value chains and cross-cutting activities, (animal health, animal feed, animal genetic and Livestock management and capacity improvement of the livestock holders and staff) what is vital is facilitation of agribusiness linkages along the commodity value chain. The consultant has to develop policy implementation and monitoring strategy and build the capacity of group of Officers from Livestock and Dairy Development department to oversee the implementation.

To ensure proper implementation of the policy document a result oriented policy implementation Action Plan will be developed to elaborate on the roles and responsibilities of various stakeholders; focuses on institutional reforms and strengthening; enhancing

department's capacity to respond to changed scenario switching over from subsistent to commercial dairy farming. The action plan shall propose to undertake short terms measures to achieve quick impact results. It also proposes a business Plan for value added livestock products and strengthen the capacity of famers and the Department of Livestock and Dairy Development.

Under the overall supervision of the FAO Representative in Pakistan and direct supervision of the Assistant Representative Program, relevant FAO staff and in consultation with relevant government departments, farmers, and other national and international organizations concerned, the consultant will:

- Carryout the contextual analysis of the changing circumstances and propose a robust Livestock Action Plan; Keeping in view socio-economic scenario, at both national and provincial level and the emerging opportunities;
- Review the current policy/strategies, program and align Livestock sector priorities;
- Assess areas for longer term investments in Livestock sector, strengthening of livelihoods systems to ensure local food security and nutrition and foster economic growth by creating income and employment opportunities for small and large livestock farmers, landless;
- Assess institutional arrangements, capacities (TNA) and suggest appropriate action for improvement;
- Propose Livestock sector action plan with estimated budgets;
- Provide training to the selected Livestock Department staff for policy/strategies implementation;
- Assist the department to formulate projects that align with the Livestock Policy and Strategy for Khyber Pakhtunkhwa;
- Solicit views and opinions from community organizations, NGOs, provincial and district level institutions to effectively program the projects to achieve results as per the strategic guidance of the approved policy;
- Discuss and propose final implementation modalities and clarify roles and responsibilities among various stakeholders;
- Evaluate the potential risks and problems associated with the execution of the KP Livestock policy;
- Identify and leverage linkages and synergies with relevant on-going or planed Livestock, food security and nutrition interventions and natural resources management by other donors.

KEY PERFORMANCE INDICATORS AND REQUIRED COMPETENCIES:

Expected Outputs:	Required Completion Date:
<ul style="list-style-type: none"> • Draft and finalize Livestock Action Plan; • Produce report on full-fledged strategic interventions along with the recommendations to transform the KP Livestock sector working directly and other stakeholders that will provide strategic directions for the sector's transformation; • Arrange training of key livestock and dairy department staff on planning and implementation of the KP livestock policy and action plan. <p>Competencies:</p> <ul style="list-style-type: none"> • Degree in Livestock and Dairy /Animal Husbandry, Economics, Business administration; • A minimum of 15 years of professional experience; • Knowledge and experience in the area of livestock value chain, marketing, product development etc.; 	<p>July 2019</p>

<ul style="list-style-type: none">• Hands on work experience in developing strategic and policy papers and documents;• Experience in producing Action Plans/strategies with results-based monitoring and evaluation methodologies Knowledge of FAO programming approaches is desirable;• Experience of working in KP is desirable.	
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Annex-3; Email from Dr Sanaullah Khan dated 7 July 2019

Khan, Sanaullah (FAOPK) <Sanaullah.Khan@fao.org>

Sun, Jul 7,
3:08 PM

to me

Dear Qureshi sb,

Please keep contact with me either through mail or phone. I am the focal person for the consultancy assigned to you. You are kindly advised to ask me if you need an support and help.

Best regards,

Sanaullah khan

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Annex-4; Email from Dr Sanaullah Khan dated 8 July 2019

Khan, Sanaullah (FAOPK) <Sanaullah.Khan@fao.org>

Jul 8, 2019,
1:59 PM

to Jana, Faiza, me

Dear Qureshi sb,

You have signed contract for the subject consultancy which is effective from June 20th, 2019 but has not yet submitted work plan for carrying out the subject assignment.

Kindly submit the Work Plan so that support if any is required could be provided. Approved ToRs are also enclosed for your information and guidance.

Please feel free to ask any further clarification.

Best regards,

Sanaullah Khan

2 Attachments

Annex-5; TORs emailed by Dr Sanaullah Khan

Draft

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Terms of References for Consultants/PSA

Minimum numbers of years of relevant experience required: 1-year ; 5 years ; 12+ years

Job Title	National consultant Livestock and diary development	
Division/deptt;	FAPAK	
Programme/project	TCP-PAK-3701-C1	
Location	Peshawar(travel within the province as necessary)	
Expected start date of assignment	15 th , June 2019	Duration: 45 days
Reports to Name:	Farrukh Toirov	Title: Assistant FAOR Representative- Program

Overall Objective

The huge livestock potential of KP has not been yet adequately exploited for the economic benefit of the province and ensure food security as well as economic development. To reverse this situation, the government plans to increase livestock production contributions to provincial GDP focusing on three major areas: in increasing red meat, milk and poultry production in terms of both quality and quantity.

The overall objective of the consultancy assignment is to develop an Action Plan for livestock sector development and transformation based on the KP Livestock policy. The plan shall mainly address policy implementation and regulatory issues, value chain development, private sector engagement and overall required capacity at provincial and districts levels. Furthermore, the consultant shall delineate a strategy on promoting market oriented production approaches through improved and specialized production modalities. The Action Plan document will have detailed implementation and management arrangements as well as a coherent monitoring and evaluation framework to achieve targeted outputs in the specified period. The overall thrust of the consultancy service is to develop a program that would facilitate and enhance incomes and living standards of smallholder farmers in all production zones by promoting commercialization, through support to market oriented production, improved market efficiency and value addition of three key livestock commodities: dairy, red meat from cattle, sheep, goats; and poultry. Within the commodity value chains and cross-cutting activities, (animal health, animal feed, animal genetic and Livestock management and capacity

improvement of the livestock holders and staff) what is vital is facilitation of agribusiness linkages along the commodity value chain

IV. EXPECTED DELIVERABLES and DURATION

Livestock Action Plan to identify, institutional, and regulatory constraints that hinder the competitiveness of the sector; Report on full-fledged strategic interventions along with the recommendations to transform the KP livestock sector working directly and other stakeholders that will provide strategic directions for the sector's transformation. The required document will be shared with the relevant stakeholders and arrange training of key livestock and dairy development department staff on planning and implementation of the livestock policy and action plan.

Duration

Complete the consultancy assignment within 45 working days as per the following timeframe:

No. Main activity working days Assigned 1. First, draft 20 days. Second, draft 10 days. Validation workshop 5days. Final draft 10 days

V. IMPLEMENTATION ARRANGEMENTS

The consultant will be recruited under the FAO terms and conditions, and undertake the assigned tasks and responsibilities under the direct supervision of the AfAOR Program. The consultant will also be working closely with the Director General Livestock KP and other key stakeholders at provincial and local levels.

Regarding administration and arranging appointment with stakeholders and partners, Director General Livestock will provide the necessary support. The consultant is required to be a team player with the ability to maintain good working relationship with the Directorate staff, stakeholders and partners.

For organizing the consultative meeting and validation workshop to be held at the end of the consultative period in Peshawar, the consultant will work together with the directorate general. The Directorate will provide the consultant office space and secretarial services and arrange validation workshop.

VI. QUALIFICATIONS OF THE SUCCESSFUL INDIVIDUAL CONTRACTOR (IC)

A. Technical Competencies:

Degree in Livestock and Dairy /Animal Husbandry, Economics, Business administration. A minimum of 15 years of professional experience. Knowledge and experience in the area of livestock value chain, marketing, product development etc. Hands on work experience in developing strategic and policy papers and documents. Experience in producing Action Plans/strategies with results-based monitoring and evaluation methodologies Knowledge of FAO programming approaches is desirable. Experience of working in KP is desirable

Annex-6; Email of Prof M Subhan Qureshi dated 8 July 2019

Mon, Jul 8,
3:03 PM

Prof M.Subhan Qureshi <drmsquareshi@aup.edu.pk>

to Waleed, Sanaullah, Jana, Faiza

Dear Dr Sanaullah Khan sb,

Thanks for sharing the draft TORs. However, I have got different TORs from the FAO Head Office which are attached herewith for your kind information. The work plan is being prepared on weekly basis and shared with International Project Coordinator FAO Peshawar, for information and necessary action.

Thanks and regards.

Prof Dr Muhammad Subhan Qureshi

National Consultant
Livestock and Dairy Development
FAO Office Peshawar

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(

Adjunct Professor, [CSU-NSW](#), Australia/Ex Dean [UAP](#))

Attachments area

Annex-7; Email from Dr Sanaullah Khan dated 26 September 2019

Khan, Sanaullah (FAOPK)

Sep 26, 2019,
1:05 PM

to Waleed, Farrukh, MuhammadImam, Muhammad, Ghani, Asad, Jana, Aamer, Marcel, me

Dear Dr. Qureshi sb,

The zero draft of the KP livestock Action Plan was reviewed internally by a group of FAO Livestock experts and was highly appreciated your efforts. As per their discussion your report is really a good agenda for livestock development of KP, however, it is not in line with the strategic areas of KP approved Livestock Policy 2018. The same areas are reproduced below:

1. Animal Health and disease control
2. Animal Breeding and genetic Resource conservation
3. Veterinary Education, Research, Extension and Human Resource Development
4. Animal Nutrition
5. Livestock Marketing; and
6. Institutional Restructuring for Specialized Tasks

The livestock experts suggested the following:

1. To rearrange the report according to the policy strategic areas and propose actions against each policy strategic area with time line/road map and budget,
2. Any additional area you consider is very important for the development of Livestock and dairy development in KP and that is not covered under the above strategic areas in the policy, you may add as additional action.
3. Furthermore I suggest that if you still feel further discussion we can hold a meeting with Dr. Afzal to further discuss the structure which will be facilitated by FAO.

Please feel free to ask any clarification.

Best regards,

Sanaullah Khan

Responsible Officer

Annex-8; Email of Prof M Subhan Qureshi dated 7 October 2019

Oct 7, 2019, 9:21 PM (10 days ago)

Prof Dr Muhammad Subhan Qureshi <drmsqureshi@gmail.com>

to Mina, Farrukh, Faiza, Maria, Waleed, Aamer, Mujibur, Muhammad, Sanaulah

Dear Mr Farrukh,

Please refer to your email dated 28 September, advising HR Office for my payment. However, on telephonic inquiry Ms Faiza Younas told me that it has not been initiated yet. Please advise them to expedite the payment process.

As far as comments of the review committee are concerned, these are beyond my TORs communicated by FAO Islamabad. The Action Plan has already been prepared in line with TORs and submitted to you on 31 August, 2019, the last day of my consultancy as per Personal Service Contract signed on 19 June, 2019 with the FAO Representative. I am working on Part-II of the Action Plan to accommodate the committee's comments and it may please not be tied with my payment, as it may take about one to two months to complete.

With highest regards, please.

Prof Dr Muhammad Subhan Qureshi

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(

Adjunct Professor, [CSU-NSW](#), Australia/Ex Dean [UAP](#))

Annex-9; Email of Mr Farrukh Toirov dated 14 October, 2019

Toirov, Farrukh (FAOPK)

Oct 14, 2019, 10:33 PM (3
days ago)

to Faiza, Maria, Waleed, Aamer, Muhammad, Mina, Sanallah, me, Mujibur

Dear Dr. Qureshi,

It has been brought to my attention that according to the enclosed ToR, consultant is expected to “Draft and finalize Livestock Action Plan”. Draft of the document is already prepared but there were several comments from the colleagues that need to be incorporated in the document for finalization.

Kind regards,

Farrukh

Annex-10; Summary of Cost estimate (Rs. million)

S No	Component	Endowment Fund	Non-lapsable Development Grant	Total
Livestock and Dairy Development Department Extension Wing				
1	Livestock Policy Implementation Cell	100	150	250
2	LBSC Bannu	50	50	100
	<i>Subtotal</i>	<u>150</u>	<u>200</u>	350
Livestock and Dairy Development Department Research Wing				
3	Livestock Technopark Peshawar	340	350	690
4	Laboratory accreditation	0	100	100
5	Vaccine Research and Transformation Program	50	100	150
6	LBSC and Veterinary Research and Diagnostics Center Merged Areas of KP	100	170	270
7	Feeds and Fodders Research and Entrepreneurship	40	0	40
8	Livestock Business Support Center VRI	70	0	70
9	Feed mills leasing	20	0	20
10	Students Internship	50	10	60
11	LBSC Kohat	50	0	50
12	LBSC Abbottabad	50	0	50
	<i>Subtotal</i>	<u>770</u>	<u>730</u>	1500
Directorate General of Fisheries and Local Council Board				
13	Livestock Business Support Center Fisheries	50	100	150
14	LBSC Slaughter House Ring Road, Local Council Board Peshawar	100	100	200
	<i>Subtotal</i>	<u>150</u>	<u>200</u>	350
Universities				
15	Dairy and Meat Technology Center, Women University Mardan	50	50	100
16	Accreditation of degree programs of FAHVS Abdul Wali Khan University Mardan with PVMC	0	50	50
17	Livestock Business Support Center at Abdul Wali Khan University Mardan	50	0	50
18	Gomal Technopark, Gomal University DI Khan	250	100	350
19	Shaheed Benazeer Bhutto University, Sheringal, Dir	10	0	10
20	LBSC, University of Agriculture Peshawar	100	50	150
21	Biorisk Management Center, KMU Peshawar	20	20	40
22	LBSC Swat University Swat	50	0	50
	<i>Subtotal</i>	<u>530</u>	<u>270</u>	800
	Grand Total	1600	1400	3000