Key message of Departmental Vision cum Roadmap for Development of Animal Husbandry and Veterinary Sector in the State of Assam, India (November 2018), Department of Animal Husbandry and Veterinary, Government of Assam

Changing the perception about the sector:

The Animal Husbandry and Veterinary sector essentially contribute to the protection of human health, bio-threat reduction, improvement in nutrition, environmental conservation, animal welfare, and the economic, social well-being of the citizens. The development of the sector requires an appreciation of this larger role played by professional institutions within the sector. There is an urgent need to change the perception that veterinary service is only for the health care of animals and to support farming. A wider description of the mandate of the Animal Husbandry and Veterinary Department of the state in the public domain is important in this context. The increased awareness and appreciation of the wider mandate will translate into improved budgetary support to institutions within the sector. It will also augment partnerships of veterinary institutions with institutions within the domain of agriculture, human health, and the environment.

From production alone to sustainable production and contribution to SDGs:

Instead of focusing on commercial livestock production alone, the state needs to focus on climate-resilient, sustainable production systems simultaneously. Assam is known for its resources and traditional practices, and it is possible to promote livestock linked agri-tourism to enhance farmers' income. The institutions within the sector, instead of focusing on commercial production alone, should work towards the enhancement of the sector's contribution to the achievement of the Sustainable Development Goals (SDGs).

Realistic fixation of production target:

For a long period, Assam is highlighting a demand-supply gap of livestock products. The standard per capita dietary recommendation of the Indian Council of Medical Research (ICMR) and the sample survey of production data is used to calculate the demand and the supply gap. There is no comprehensive demand study of local livestock products within the state. The planners do not precisely know the dietary preference and consumption pattern of people within various agro-climatic zones of the state in the context of livestock products. Inter-state import indicates the supply gap but not the demand for locally produced products. The state needs to shift from her current idealistic fixation (based on ICMR recommendation) to realistic fixation of production goal. A major investment is needed to conduct demand surveys for local produce/brands and to fix sustainable production targets at the level of the panchayat, production clusters, and village-based on the local resource, preference, nutrition, and the environmental impact estimation. In terms of 'idealistic fixation of production goal' for 2030 mentioned above, Assam needs to enhance production per year by 142 Million Litre, 25.35 thousand tons, 446.81 million numbers of milk, meat and eggs respectively.

Mass production to market-led production:

Political, societal, and environmental constraints or causes act as an impediment to the growth of livestock enterprises within the state of Assam. The state is known for its huge interstate import of livestock products

such as egg, milk, meat, etc. There are only a few emerging commercial enterprises. Many enterprises that are critical for the success of the livestock value chain are either non-existing or still in their nascent stage. Interestingly, the state has unique near organic production systems such as *Khutis* in the forest and riverine areas. There are recognized local breeds of livestock and poultry, which has the potential to attract the attention of a niche market because of quality product and consumer preference. Considering such a backdrop, it is imperative that the state should focus on market-led production instead of mass production. The focus should be on supporting the value chain critical operations, food safety, nutrition, brand building, and niche marketing. Special emphasis should go into enterprises that use the state's unique farming system and indigenous animal as their branding strategy.

Building an environment for enhanced credit flow:

An important aspect in augmenting the growth of livestock enterprises is the facilitation of credit delivery by creating awareness of available bank linked investment promotion schemes. There is a need for supporting farmers to become creditworthy to avail of these schemes. Promotion of current account, Kishan Credit Card for livestock, Livestock Farm Decision Support System for bank managers, and the private data service for productivity/risk monitoring of supported units by banks are some of the action areas in this connection.

Towards holistic breeding support:

Artificial insemination technique has been a popular tool to ensure breed development. However, instead of artificial insemination service alone, public and private service providers within the state should focus on delivering holistic breeding support, e.g., handling of infertility, nutrition support, planned disposal of unproductive animals, etc. Farmers should be made aware of both benefits and pre-requisite of success of artificial insemination technology adoptions for informed decisions. Regulatory enforcement for the use of progeny tested semen, support, and supervision of private breeding operation are required to reach out to larger areas. Capacity building of breeder farm and breeder associations is another important area of action.

Animal and farm premise identification and promotion of record-keeping:

No useful animal and enterprise productivity estimation is possible without a scientific system of record keeping. Livestock farmers in the state need commercial orientation and handholding for record-keeping. Animal and farm premises identification, data recording, analysis, are pre-requisites for herd/flock health management in the commercial context. Animal identification and planned data generation from the breedable animal population are essential to reap the benefit of artificial insemination technology. Animal and farm premise identification can greatly assist in bio-security monitoring, planned disease control, and marketing of livestock products with traceability.

Strategizing to augment production with value chain focus:

There is an observed tendency of direct public investment in commercial production. The need is only to facilitate the production of livestock products. Government farms should be re-shaped as the suppliers of

assets (e.g., Heifer, piglets, kids, etc.) to the poor. They can incubate first-generation entrepreneurs and farmer collectives or facilitate on-job skilling cum technology demonstration. To streamline production, public-funded plans and programs should not focus only on farmers but also on numerous actors within the value chain of the concerned livestock business. The promotion of interaction between actors of a value chain is essential to bring innovation within the production system. It is prudent for the state to augment scaling up farms in rural areas as there is a growing opportunity cost of urban land. It is also logical that existing private farms of entrepreneurs should continue to get support so that they become a role model for others. Instead of single-species focused technology-intensive commercial farming, low risk-taking entrepreneurs should be encouraged to go for integrated, multi-species farming as a backyard alternative agri-linked livelihood option. Similarly, augmentation of small farm animals, e.g., goat/pig and backyard poultry ownership, will be more appropriate in remote and hilly areas.

Nutrition focus extension:

Within the state, there is a vast gap in the demand and the supply of feed and fodder. Feeding is a critical function, which is almost 70% of farm expenses. The use of compound feed and cultivation of fodder is still in the nascent stage within the state. Majority grazing reserves need protection and rejuvenation. The nutrition-focused extension system is the need of the hour to educate farmers on scientific feeding and the use of feed and fodder-based technologies. Government support to the private sector for enhanced quality fodder seed availability is another important aspect.

Support for cluster development:

The state has emerging areas where there is a concentration of commercial farms. Based on sustainability analysis, it is possible to convert some of these areas into well-planned, bio-secured production clusters with an integrated value chain and service facility. Public investment must ensure sustainable resource augmentation and trade facilitation from these clusters. The government can provide support to farmer organizations within these clusters for premise registration, collective input procurement, bio-security planning, etc. Access to laboratory and data-focused, productivity-oriented quality veterinary and extension service is another important aspect in such clusters. The farmer level institutions such as cooperatives active in cluster areas should not only focus on aggregation and procurement for processing of livestock products but also on delivery of quality farm inputs, including 'herd health' focused veterinary services on an annual contract basis.

Emphasis on Bio-security and border control:

Assam is the prime state of the North Eastern Region (NER) of India that shares 98% of its borders with foreign countries. Act East Policy of India is likely to enhance livestock and livestock product trade and movement of people from bordering countries. Therefore, the risk of the spread of transboundary animal disease is very high. The state needs concerted efforts for enhanced internal bio-security management and

border control programs to ensure disease-free status, which is essential to promote both domestic (to mainland India) and export trade of livestock products. Control of transboundary and other animal diseases also assumes significance in the state considering its vast wild animal population and their conservation.

Farm animal veterinary service delivery at the last mile:

The economic value of the livestock depends on its productivity. Veterinary service should ensure that animals do not suffer from diseases with pro-active actions covering all aspects of health monitoring, feeding, and farm management. Availability, access, and adequacy of public veterinary service to remote rural areas can be improved manifold through a partnership with community institutions. Public veterinary service needs to continuously work on finding solutions to numerous last mile problems of preventive and curative veterinary service delivery such as poor cold chain facility for vaccine delivery, lack of appropriate vial size for smallholder farms, and an assortment of drugs, etc. The veterinary services within the state should be re-oriented from being mass centric to client-centric. Much improvement is required as far as the current infrastructure is concerned. There is a need to ensure the availability of required service providers. Field personnel must be equipped to reach out to farmers at their doorstep. Investment in mobile facilities, including boat service for the state's riverine areas, is a critical requirement.

Monitoring of veterinary service delivery:

Veterinary service delivery is a regulated profession, and such regulation is important for food safety, drug, and anti-microbial resistance. The statutory state veterinary council should be empowered to monitor service providers.

Strengthening livestock product marketing:

Successful marketing of livestock products is an important element for sectoral development. As high as 29 percent of milk samples tested in Assam during 2017 do not conform to standards. Interestingly the majority of non-conformation is due to low fat and SNF. Similarly, the microbiological quality of various local livestock products needs much improvement. Standard and quality product is essential to ensure price realization and to survive growing market competition. The role of publicly funded agencies within the state is largely limited to helping farmer groups set up retail outlets etc. The need is for holistic support to ensure better price realization and income generation by farmers. Programs should support aggregation, grading, local branding, generic promotion of local produce and promotion of by-product industries, etc. Interference of publicly funded agencies to control the market and in fixation of the price should be discouraged. However, public investment can go into real-time monitoring of the demand, standards, cost of production, and marketing practices. Such monitoring supports the implementation of the law to ensure healthy competition and to protect the interest of all within the value chain. It is also helpful to declare and publicize a realistic minimum price of livestock products and farm inputs specific to geographical location and product standards

for the empowerment of farmers. The augmentation of private investment in modern processing can improve the marketing scenario. Promotion of the processing sector should also accompany a generic campaign for public awareness on the hygiene of processed products and curb on wet roadside markets. Careful production planning by industry association and farmer collectives is also important to prevent surplus that leads to a fall in price. Assam though has a high percentage of the non-vegetarian population; people have many options and preferences, including fish as an alternative to meat. With competition on the cost of production, growing corporate investment on the integrated operation, fluctuating prices of inputs makes it imperative for the government to handhold and support small farmers to form producer groups for scale in operation and market-led collective actions, e.g., collective procurement of feed, etc. The state should facilitate contract farming by adopting a law that ensures fair market play and protection of exploitation of local farmers. In the context of Assam, support to cottage milk processing, production of traditional meat products, and local economic use of byproducts assume much significance.

Strengthening of physical livestock markets:

The physical livestock market helps in the live animal trade, prevention of inbreeding, and the disposal of culled animals. The government should invest in mapping and bio-security improvement of physical markets, animal movement routes.

Re-structuring the line department to lead the sector:

As a nodal line department, the Department of Animal Husbandry and Veterinary needs to effectively play the role of a regulator, service provider, and development facilitator. A revision of the mandate of the department should be made to cover wide areas and to ensure partnerships thereof. With the growth of the private sector, the veterinary service of the department in the future will have to focus mainly on public functions such as preventive care and control of disease, including that of zoonotic diseases. Similarly, breeding related service will mostly focus on the control and the use of animal data and the implementation of the technical breeding policy. There is a need to restructure the department, including a review of cadre clubbed with focused need-based re-skilling. Re-skilling should also focus on non-technical areas such as leadership, communication, and project management. Besides giving incentives to professionals for higher qualifications, future appointments should focus on getting specialized people on board instead of general cadre-based appointments. Instead of current species focus, departmental budget plans and programs should be re-oriented under the various functional head, e.g., veterinary care, breeding, training, etc. for strong management control. Strengthening of each entity or functional division as an independent strategic unit (ISUs) will help ensure appropriate resource allocation and performance evaluation based on activity linked indicators. Because the department is an asset-rich organization and current management of the same is in shambles, and a strategic asset/land use initiative is required. Many assets need appropriate categorization for optimum use. The need is also to protect many assets against encroachments. An integrated Management Information System (MIS) for effective monitoring and administrative efficiency is a pre-requisite for enabling the department to deliver its mandated functions.