Review of Veterinary Legislation for Prevention and Control of Infectious Diseases of Animals and its Situation in Nepal

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ABSTRACT

The morbidity and mortality caused by the animal infectious disease outbreaks result in significant losses to the farmers and the national economy. Besides, several animal diseases are zoonotic, thereby negatively impacting public health. It is imperative to control infectious diseases of animals effectively and promptly from both economic and public health perspective. Veterinary legislation plays an important role in the prevention and control of animal infectious diseases. The objective of this study is to review the legal provisions currently available to control animal infectious diseases in different countries and to identify the gaps in the context of Nepal. We found that several countries in the world including some countries in South Asia have already enacted the laws to control animal infectious diseases that have provided them a legal basis to effectively control infectious animal diseases. However, there is a lack of such a comprehensive legal basis for the control of animal infectious diseases in Nepal. There are some existing legal documents in Nepal such as the Animal Health and Livestock Services Act and its Regulation, Animal Slaughterhouse and Meat Inspection Act and its Regulation, and the Bird Flu Control Order. However, several provisions that are vital to successfully control animal infectious diseases effectively and promptly are missing in the existing legal documents. Further, these laws were prepared before the existence of the federal system of governance. Since the livestock and fisheries sector is rapidly commercializing in Nepal, the possibility of larger outbreaks in the animal population is increasing with intensified farming. This will also lead to the possibility of zoonotic disease spillover events in humans. It is necessary to immediately control animal diseases at their source to minimize the impacts that can be caused by infectious animal disease outbreaks. For this, it is recommended to formulate the animal infectious diseases control act and provide a legal framework for the timely control of animal infectious diseases. The new act with a clear funding mechanism should also consider the federal structure of the country and recognize the roles of stakeholders including federal, provincail, and local governments.

***Keywords:** Animal diseases; Animal Health Acts; Emerging and reemerging diseases; Economic losses; Regulations*

INTRODUCTION

Infectious diseases are diseases that are caused by microorganisms including bacteria, viruses, fungi, and parasites (WHO, 2020). Both humans and animals are affected by a myriad of infectious microorganisms causing huge public health and socioeconomic impacts (Otte et al., 2004; Smith et al., 2019). It is estimated that nearly 60% of all infectious diseases and 75% of emerging and reemerging infectious diseases in humans are caused by pathogens of animal-origin (Weiss, 2001; Doorn, 2014).The most cost-effective way to prevent the emergence of emerging infectious diseases (EIDs) in humans is to invest in controlling diseases at the animal level and preventing disease spillover events (Ellwanger et al., 2019). There is atleast two-fold advantage of controlling infectious animal diseases. First, it enhances the food security, food safety, and socio-economic status of farmers through increased production and productivity by preventing the losses caused by disease outbreaks in the animal population (Otte et al., 2004; Domenech et al., 2006). Second, it promotes public health by reducing the burden of zoonotic diseases and disease spillover events (Borremans et al., 2019; Dobson et al., 2020). The enormous loss of human lives and the economy that a single disease spillover event, if it takes the pandemic form, can cause has been well demonstrated by the ongoing COVID-19 pandemic (Pak et al., 2020; Nichola et al., 2020) and Nepal can remain no exception from the global pandemics (Dhakal and Karki, 2020). Further, many of the infectious animal diseases cause trade restrictions causing huge economic losses to the country.

In Nepal, the livestock sector is estimated to contribute about 10% to the national gross domestic product (GDP) and more than 25% to the agricultural GDP. The livestock sector is still largely subsistence-based with a large number of farmers rearing a small number of multiple livestock species which acts as an important source of cash income in the rural economy. Nepal has a huge livestock population with 7.3 million cattle, 5.1 million buffaloes, 10.9 million goats, 0.8 million sheep, 0.96 million pigs, and 68.6 million poultry (CBS, 2017). From these animals, 1.85 million metric ton milk, 0.32 million metric ton meat, 1.3 billion eggs, and 569 metric ton wool are produced annually (CBS, 2017). Despite the huge livestock population, the value of import of food and live animals has skyrocketed from 15,838.3 million rupees in 2007/08 to 130,622.7 million rupees in 2016/17 (CBS, 2017). During the same period, the export barely increased from 13,164.9 million rupees to 18,305.9 million rupees (CBS, 2017) resulting in a huge trade deficit. The Government of Nepal has been promoting the commercialization of the livestock industry to reduce the trade deficit and become self-sufficient in livestock products,. In the last two decades, the poultry industry in Nepal has progressed a lot and is currently nearly self-sufficient in broiler meat and eggs. However, it relies heavily on other countries for inputs required such as parent stocks and feed ingredients. The dairy sector, goat farming, and pig industry are also rapidly commercializing in the peri-urban areas of larger cities with increasing demands for their products.

With this changing pattern of livestock husbandry, globalization, and change in the ecosystem, new challenges such as outbreaks of emerging and re-emerging infectious diseases and transboundary animal diseases are also increasing. For example, highly pathogenic avian influenza (HPAI H5N1) was detected in Nepal in Jhapa district in 2009 for the first time (Karki et al., 2014), and caused significant economic losses to the farmers (Karki et al., 2015; Karki, 2017). Other infectious diseases of animals such as Foot-and-mouth disease (FMD), Peste des petits ruminants (PPR), Classical swine fever (CSF), Hemorrhagic septicemia (HS), and a Black quarter (BQ) are endemic in Nepal which is causing huge economic losses. Further, zoonotic infectious diseases

such as Anthrax, Brucellosis, Tuberculosis, Leptospirosis, and Japanese encephalitis are also prevalent in Nepal. The Lumpy Skin Disease (LSD) has been officially confirmed in Nepal in July 2020 (OIE, 2020). There is also the possibility of the introduction of new diseases like African swine fever which is already causing havoc in the neighboring Chinese pig industry since 2018 and has been confirmed in Assam, India in May 2020 (Kabra et al., 2020; OIE, 2020; Penrith, 2020). If appropriate timely prevention and control measures are not applied, it might result in huge socioeconomic losses through outbreaks of infectious animal diseases and zoonotic diseases.

Nepal is a member of the World Organization for Animal Health (OIE) and is obliged to maintain OIE standards not only for World Trade Organization (WTO) requirements for the export market but also for local production and domestic consumption. Terrestrial Animal Health Code and other codes of OIE obliges all member countries to report disease situations in all animals including bee and fish with their new outbreaks. To meet such standard, control and diagnosis of animal diseases, surveillance of diseases, surveillance of drug residues in livestock products, need to be conducted following OIE protocols across the country. Animal quarantine is equally important to control transboundary animal diseases (TADs) in the interest of both national and global livestock production. Further, to comply with these international standards, animal welfare should also be considered during livestock production and marketing.

However, the existing laws such as Animal Health and Livestock Services Act, 1999 do not provide enough legal framework for the prevention and control of infectious diseases in animals. Currently, there is no appropriate act available to provide a legal framework for the prevention and control of infectious diseases of animals in case of an outbreak or the entry or emergence in the country. The absence of legal provisions has made it complicated to seek farmer's support in the government-led control program due to the lack of provision for providing compensation to farmers to mitigate their losses. Further, from the change of governance to the federal system with three levels of government (federal, state, and local), there is a need for new acts and policies acceptable to all levels of governmentwith clear roles and responsibilities and a linkage mechanism. The objective of this study is to review the currently available animal infectious disease control acts in other countries and identify the gaps in the context of Nepal.

METHODOLOGY

The methodologies include a review of the national and international laws and literature relevant to the control of infectious disease in animals.

FINDINGS

Current Animal Health Structure in Nepal

Currently, Nepal has adopted three levels of government: Federal; Province, and Local. There are seven provinces and 753 local bodies (6 metropolitan cities, 11 sub-metropolitan cities, 276 municipalities, and 460 rural municipalities). In the animal health sector, the Ministry of Agriculture and Livestock Development is the apex body at the federal level, whereas the Department of Livestock Services (DLS) serves as a lead technical agency under the Ministry. Under the new structure, there are three major divisions within DLS headed by Deputy Director

Generals namely Animal Diseases Investigation and Control Division, Animal Quarantine Division, and Animal Genetic Resources and Economic Analysis Division. Under the direct supervision of the DLS, there are five laboratories: Central Veterinary Disease Investigation Laboratory (CVL), National Vaccine Production Laboratory, Veterinary Standards, and Drug Regulatory Laboratory, National Avian Disease Diagnostic Laboratory, and FMD & TADs Investigation Laboratory. Under the CVL, there are five veterinary laboratories at Biratnagar, Janakpur, Pokhara, Surkhet, and Dhangadhi.

Under the provincial government, the animal health sector is headed by the Ministry of Agriculture, Land Management, and Cooperatives. In the new structure, the previous 75 District Livestock Services Center (DLSOs) has been collapsed and replaced by 47 Veterinary Hospitals and Specialised Service Center (VHSSC) which falls under the jurisdiction of the Provincial Directorate of Livestock and Fisheries Development under the provincial Ministry. Previous livestock service and sub-service centers now fall under the jurisdiction of local government.

Existing major legal framework related to animal disease control in Nepal

Animal Health and Livestock Services Act, 1999

Under this act, there are provisions for the appointment of Veterinary inspector and quarantine officers. The veterinary inspector's jurisdiction is to inspect the quality and standard of veterinary drugs or biological products while the quarantine officer shall be responsible for the inspection of animals at the quarantine check posts. The Office In-charge or the Quarantine Officer may restrict the movement and transport of animals from the place of the Kingdom of Nepal where there is an outbreak of contagious diseases in animals to other places of the Kingdom of Nepal. Besides, there is a provision to establish temporary quarantine check-posts and restrictions on the movement of Nepal from areas of a contagious disease outbreak. There is also the provision of a permit requirement for the import and export of animals and animal products.

If there is any suspicion of contagious disease, a veterinary inspector might enter into the location to examine animals, animal products, or animal production inputs. If those inspected animals are found to be infected with diseases specified in the notification published in Nepal Gazette, the office in-charge remove or destroy such animal and animal products. There is also provision for the prevention of cruelty to animals by notification in the Nepal Gazette.

Animal Health and Livestock Services Regulation, 2000

The major provisions in this regulation include provisions to notify infectious diseases to the nearest livestock services center or sub-center or the Livestock services office and upon an investigation by the concerned technician, the information thereof has to be given immediately to the Veterinary Officer designated by the Department. In the regulation, there is provision for quarantine periods for different notifiable diseases. The procedure for disinfection has also been described in this regulation. Likewise, there is a provision that allows the office in charge in case of suspicion suspects for contagious disease, in any animal, animal products, or animal production inputs to examine such animal, animal products, or animal production inputs by entering the places

of their location. Also, procedures for physical examination of animals have been described in the regulation.

Animal Slaughterhouse and Meat Inspection Act, 1999 and its Regulation, 2001

This act and regulation were enacted to regulate the establishment of slaughterhouse and arrangements for meat inspection to safeguard the health and welfare of the people in general and to control adulteration in meat and meat products and to maintain a reasonable standard of meat by protecting the wholesomeness, quality, and adequacy of meat. The major provisions under this act and regulation include the requirement of a permit to establish a slaughterhouse, provisions related to the establishment of the slaughterhouse, the appointment of the Meat Inspector and Supervisors; ante-mortem and post-mortem inspection of animals, the prohibition of selling adulterated meat, and power of meat inspector and supervisor to enter the slaughterhouse for inspection.

Bird Flu Control Order, 2064

The Bird Flu Control Order, 2064 provides guidelines and legal framework to conduct control activities during highly pathogenic avian influenza outbreaks. Under this order, there are provisions for declaration of an infected area as well as de-notification of the outbreak area after the area becomes free from the disease. There is also the provision of culling birds to control the disease as well as compensation of killed birds under this order. However, the existence of this order is questionable as the mother law on this order was based on is replaced by a new act.

Nepal Veterinary Council Act, 2055 and Its Regulation, 2057

The Act includes a mandatory provision of registration of veterinarian (Clause 11) in order to practice veterinary profession. Nepal Veterinary Council is also mandated for policy advocacy to government for quality veterinary services including the prevention and control of animal infectious diseases.

The Criminal Code, 2074

The Criminal Code, 2074 includes few provisions in relation to animals that may have implication with the transmission, prevention and control of animal diseases. Some of those provisions include prohibition of carelessness, abandonment, bestiality, cruelty and such activities have been considered as crime and subjected to penalty in terms of fine and/or jail.

The Constitution of Nepal

The Constitution of Nepal ensures the availability of quality materials and services, food security (Clause 36), health, consumers right (Clause 44) and prosperity as the fundamental rights of citizen. The detailed description of the three-tire government for prevention and control of animal infectious diseases is described in unbundling report prepared for implementation of the Constitution. The Federal government is mandated to regulate the international trade and animal quarantine system. Provincial government is mandated for livestock development while local level

governments for management of animal health and disease control. Despite of the constitutional provision of coordination there is an urgent need to develop a mechanism of linkage between the three level of government in relation to the reporting, prevention and control mechanism of animal infectious diseases.

International legal provisions related to Animal Disease Control

Several countries across the world have legal provisions in place to govern the control of animal infectious diseases. We reviewed animal infectious diseases act from 20 countries, territories, and provinces of countries to understand the practices and provisions in other countries regarding the control of animal infectious diseases act. The list of countries, names of the act, and the promulgated year have been listed in Table 1.

Table 1. Animal Infectious Diseases Control Act in different countries

SN	Name of the Act	Year	Latest amendment	Country
1	The Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009	2009		India
2	Animal Diseases Act	1992		Sri Lanka
3	Act on Domestic Animal Infectious Diseases Control	1951	2012	Japan
4	Act on the Prevention of Contagious Animal Diseases	2002	2015	Korea
5	Decree on the prevention and control of Animal Diseases	2012		Lao PDR
6	Prevention and Control of Infectious Diseases Act 1988	1988	2006	Malaysia
7	Infectious Diseases	2003	2010	Brunei
8	Animal Diseases Act	1989	2012	Kenya
9	Animal Diseases Act, 1984	1984	1996	South Africa
10	Animal Diseases Act	2003		Tanzania
11	The Animal (Diseases and Importation) Act	1948	1982	Jamaica
12	Animal (Diseases and Importation) Act	1954	1997	Trinidad and Tobago
13	Animal Health Act, 1981	1981		UK
14	Animal Diseases Act, 2013	2013		Finland
15	Health of Animals Act	1990	2013	Canada
16	Animal Contagious Diseases Act	1962	2001	Bahamas

Below is the summary of major provisions in the animal infectious disease control acts of different countries:

Table 2. Major provisions in Animal Infectious Diseases Control Act of different countries

SN	Country	Major provisions
1	India	The Central Government has the authority to implement this act as a whole or different provision under this act in different states or areas of India. The major provisions under this act are an authority to appoint veterinary or competent officers; obligation of reporting of diseases enlisted in Schedule; authority designate controlled or free areas from certain diseases mentioned in Schedule; animal movement control; authority to vaccinate and marking; declaration or de-notification of the infected area; segregate, examine or treat animals; drawing samples from animals and practice euthanasia of infected animals when there is a possibility of zoonotic disease transmission. There are also provisions for penalties for noncompliance to this act such as a penalty for obstructing competent authority to perform their duties or for disposing of infected animals or carcass in river or failure to prevent the escape of infectious organisms for laboratories, institutions, and clinics. The act also has the provisions for the state government to delegate its power to officers or authority subordinate to it while the Central Government may omit or add the diseases listed in the Schedule as necessary.
2	Sri Lanka	The major provisions envisioned in this act are an authority to the director to seal the infected premises and area; animal movement control; immunization of animals in the infected area; seizure of infected animal and carcasses; destruction and disposal of an animal infected or come into contact with diseased animals; seizure of animal products and their destruction; disinfection of area in a prescribed manner; testing of animals for detection of specified diseases; and prohibition of sale or stock.The act also has provisions for mandatory registration of animal clinics, animal houses, or hatchery. Also, prior licenses need to be obtained under this act to manufacture the veterinary drug and veterinary biological products. Also, a license is required to maintain stud bulls and donor cows. There are provisions that require a permit and health certificate to import animal products, embryo,or semen in Sri Lanka. There is also the provision of Quarantine and the establishment of the Veterinary Drug Control Authority in this act. There are also provisions of penalties for non-compliance with the provisions in this act for a term not exceeding six months or to a fine notexceeding five thousand rupees or to both such fine and imprisonment.
3	Japan	The major provisions under this act include mandatory reporting from diagnosing veterinarian to the prefectural governor without any delay in case of diagnosis or suspicion of infectious diseases who have to them make a public notice; provision of inspection by prefectural animal health inspectors to ascertain the status and progress of outbreak; authority to order owners of animals to undergo injection, dipping or medication; issuance of a certificate of inspection; installation of equipment for disinfection; standards of hygiene rearing management; carcass

		management; movement control and restrictions of animal gathering events such as horse races; livestock shows or livestock markets. The additional provisions in the act include the provision of quarantine; permit requirements for import and export; appointment of pathogen handling officers; authority for animal quarantine officers or prefectural animal health inspectors for spot inspections; provisions of compensation; and provisions of penalties for non-compliance to provisions.
4	South Korea	Act on the Prevention of Contagious Animal Diseases was formulated in South Korea in 2002 and last amended in 2015 to developthe livestock industry and public health by preventing the outbreak or spread of contagious animal diseases. Under this act, contagious animal diseases are classified into Type I, Type II, and Type III categories. The major provisions under this actare the establishment of a system for the prevention of contagious diseases and the early detection and reporting thereof; declaration of an outbreak; establishment and operation of national integrated information system for animal disease control; establishment of Central Animal Disease Control Council; obligation of farmers and animal owner to keep their farm clean; disinfect and cooperate with local and state governments to enforce animal disease control; educating farmers and appointment of veterinary inspector and veterinary assistants to assist veterinary inspectors.Other provisions in this act include the establishment of a mobile organization for contagious animal disease control; mandatory reporting by veterinarians of dead or sick livestock they have examined; provisions for epidemiological investigation; quarantine and authority to close livestock raising facilities;movement control; order to the slaughter; prohibition of importation; compensation and provisions for penalties in case of breach of this act.
5	Lao PDR	The major provisions under this decree are disease prevention and control measures (for example risk assessment based control measures); animal disease prevention measures such as vaccination and surveillance; creating a list of notifiable diseases based on OIE lists; establishing surveillance system; authority to adopt vaccination system and declaration of an outbreak of animal diseases.Other provisions in this decree include the application of animal disease control measures and establishment of animal diseases free area; control of animals being infected or suspected of being infected; provisions for the red and yellow zone; destruction and disposal of diseased animals; compensation and notification to OIE and neighboring countries; the obligation for farmers to report; and right and duties of different levels of government.
6	Malaysia	This act mainly covers infectious disease control in humans but there are some provisions related to the controlling of contaminated animals. The major provisions under this act that cover animal infectious diseases include the appointment of authorized officers, control of contaminated articles and infected animals, entering any premises if there is suspicion

		of contaminated animals, the power to seize and dispose of contaminated animals, provisions for cost and expenses recovery, and power to make regulations.
7	Brunei	This act is primarily prepared from the human infectious disease perspective but also has provisions for control of animal infections. The major provisions related to animals in this act include quarantine measures, epidemiological surveys, disposal of animals, food, and water if they are a source of transmission of infectious diseases, animal movement control, and prohibition or regulation of importation and exportation of animals.
8	Kenya	The major provisions under this act include the appointment of veterinary inspectors, farmers, or animal owner's obligation to notify the inspectors or administrator officer; inform the neighborhood about the outbreak; provision of declaring infected area or free after the disease is controlled; movement control in the infected area; safe disposal of the carcass; prohibition of the importation of animals and provisions for the slaughtering of infected animals.There are provisions for indemnity and payment of compensation however compensation may be withheld or not paid if the person or owner of animals was found guilty for breach of any provisions of this act. The Director also has the power to search for infected animals by entering any land, farms, or vehicles. There are also provisions for penalties for breaching the provisions of this act and for obstructing any officials while executing their duties and power to seize the animals in case of breach of the act.
9	South Africa	The major provisions under this act include the appointment of authorized officers to exercise the power under this act; establishments of quarantine stations; and requirements of a permit for import and export of animals and their products. Further provisions under this act are applications of control measures for control of animal diseases and parasites; establishment of animal health schemes; obligations to farmers/owners for reporting of animal diseases; power to enter into land or animal premises to inspect; power to seize animals with suspicion of disease; compensation; requirement of a permit to conduct an investigation, experiment or research with any vaccine, serum, toxin, anti-toxin, antigen or other biological product; and objections against decisions made by the officer.
10	Tanzania	The major provisions under this act include the appointment of authorized officer to exercise the power under this act; measures for checking livestock diseases; movement control of animal and animal products from the infected area; seizing anddestroying of animals and animal products; isolation of suspected animals;declaration of buffer zone between infected and uninfected zones; and obligation for reporting for owners to the nearest veterinarian or paraprofessional within 24 hours.Other provisions include setting up quarantine; authority to slaughter or destruction of affected animals; power to inspect animal facilities and disinfection; compensation; establishment of a national epidemiological

		system; antemortem and postmortem in slaughtering premises and prevention and control of bee diseases.
11	Jamaica	The major provisions under this act include control of diseases or suspected animals; declaration of infected areas; the slaughter of diseased or suspected animals; disposal of animals and provisions of compensation; requirement of a permit for the importation of animals; establishments of quarantine facilities; powers of apprehension; penalties for offenses; and power to prohibit the use of railways or public roads.
12	Trinidad adn Tobago	The major provisions under this act include control of diseased, suspected, or infested animals; requirements for importation and exportation of animals; establishment of quarantine facilities; powers of apprehension; and appointment of inspectors; movement control of animals; and authority to inspect animal facilities.
13	United Kingdom	The major provisions under this act are the authority for the Minister to expend for disease eradication with the Treasury's approval; declaration of eradication or attested area; movement control; cleaning and disinfection of cleaning areas; prohibiting or regulating the holding of markets, fairs, exhibitions and sales of animals; may prohibit or regulation of the importation of animal and their products; owners should keep diseased animals in isolation during an outbreak; declaration of infected area and authority to enter any land if there is a suspicion of a disease outbreak. Other provisions in the act include authority to quarantine mammals suspected of Rabies; exclusion of strangers; seizure of diseased or suspected animals; control of Zoonoses; authority to slaughter animals with certain diseases; seizure and disposal of carcasses; compensation for the seizure; prevention of suffering; and requirement of certificate for import and export of animals.
14	Finland	The major provisions under this act include the obligation of an operator to establish procedures for preventing the spread of animal diseases; compulsory and voluntary health control measures; vaccination and other treatments; measures to be taken during the organization of animal shows; and restriction to release suspected animals into wild.Other major provisions under this act include an obligation to report animal diseases; disease surveillance plan; measures to be taken during outbreaks; investigation of the origin and spread of animal diseases; decisions to eradicate disease at an establishment; measures to be taken in connection to zoonoses; diseases in wild animals; declaration of the infected and restricted area; authority to kill animals in an infected or restricted area; implementation of emergency vaccination; establishment of compartments; regulating animals shows; animals movement control and provisions for compensation.
15	Bahamas	The major provisions in this act include authority for Governor-General to appoint officers to implement this act; authority for officers to inspect with written notice; authority to seize animals in case of infected animals or suspicion of being infected; apprehension of offenders; the obligation for notification to farmers or owner of animals or veterinarians working

		in field and penalty for negligence; compensation to farmers for animals slaughtered under this act; provisions for prohibition of importation and authority to declare area free from disease.Other provisions in this act include a requirement of a license to move animal and animal products outside the infected area; cleaning and disinfection of the infected area; provisions for quarantine; prohibition of livestock markets; fair, exhibition, or sales of an animal; expense payment as approved by the Minister through consolidated fund; and provisions for a penalty for breaching this act.
16	Canada	The major provisions under this act include obligations for owners to report disease; prohibition to keep diseases animals or bringing them to the market; requirements of a permit for import and export of animals; declaration of infected and control zones; movement control of animals from and to infected areas; authority to treat or destroy animals; power to arrest; authority to enter any premises fo inspection and provisions for compensation.

Gaps to control animal infectious diseases in Nepal

Several gaps have been identified after reviewing national and international laws related to animal health particularly animal infectious disease control. The existing acts, regulations, and orders were developed before the federal system of governance was adopted in Nepal. The old acts do not recognize the federal system such as state governments and local governments. The already existing laws also need to be amended to reflect the new structure. Besides, the existing laws do not have provisions for the control of infectious diseases other than highly pathogenic avian influenza based on Bird Flu Control Order. There are some provisions of movement control and destruction of infected animals but there is no provision to compensate farmers. Further, officials from the competent authority do not have any legal right to enter farm premises if there are suspected infectious animals within the farm. The provisions to declare infected area or freedom from disease after control measures are currently lacking except for the HPAI. There is no legal provision to apply appropriate control measures such as culling, isolation, vaccination, or disinfection in case of an outbreak of animal infectious diseases. Besides, there is no legal framework to guide the management of animal carcasses which can be a source of infectious disease transmission. Finally, there is no umbrella act to provide a legal framework for the control of infectious animal diseases in Nepal.

CONCLUSIONS AND RECOMMENDATIONS

In summary, several countries in the world have enacted laws to control animal infectious disease, however, there is a lack of such law in Nepal. There are some provisions under the existing laws such as the appointment of quarantine officers and veterinary inspectors. However, these acts also need to be updated to align with the new federal structure of the governance. Several provisions that are vital to successfully control animal diseases such as power to enter the suspected premises, declaration of infected zones, and provisions of compensation are missing. The livestock and fisheries sector contributes significantly to the national economy and is commercializing rapidly. With this, there is a possibility of larger outbreaks as animal farming gets intensified. Besides,

there is also a threat of zoonotic disease transmission. To minimize the impacts that can be caused by infectious animal disease outbreaks, it is necessary to immediately control animal diseases at their source. For this, it is recommended to formulate the animal infectious diseases control act and provide a legal framework for the timely control of animal infectious diseases.The new act should address the new federal structure of the country and recognize the roles of federal, provincial, and local governments. There should also be clarity in the funding mechanism to implement the new act.

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