



Review of the policy, regulatory and administrative framework for delivery of livestock health products and services in South Asia

Prepared for GALVmed by
Dr Miftahul Islam Barbaruah
Dr Abdul Samad
Vet Helpline India Pvt. Ltd.

November 2014

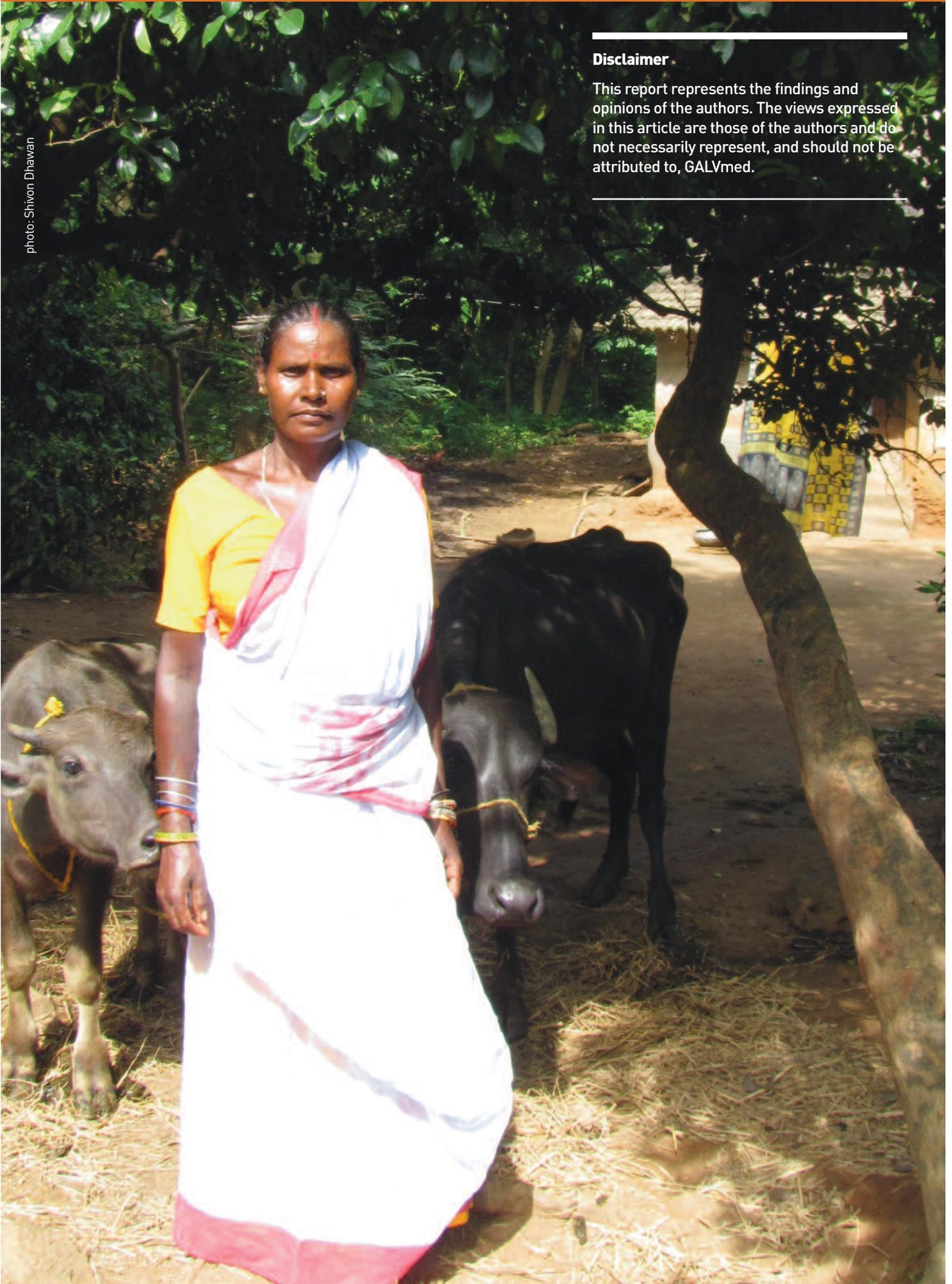


Protecting Livestock – Improving Human Lives

photo: Shvon Dhawan

Disclaimer

This report represents the findings and opinions of the authors. The views expressed in this article are those of the authors and do not necessarily represent, and should not be attributed to, GALVmed.



Contents

Executive summary	5
1 Background	7
2 Objective	7
3 Methodology	8
4 Limitations	9
5 Literature Review	9
6 Findings	12
6.1 India	12
6.2 Bangladesh	25
6.3 Nepal	33
7 Conclusion	42
8 Scope for Further Study	48
9 Recommendations	49
10 Acknowledgements	51
ANNEX 1 References	52
ANNEX 2 Review of Minor Veterinary Practices Notifications in India	60
ANNEX 3 List of People Interviewed	62
ANNEX 4 Schedule	66
List of figures and tables	
Figure 1 Components of National Animal Health System (NAHS) in South Asia	10
Table 1 Legal framework in India for non-State actors (individuals)	22
Table 2 Legal framework in India for non-State actors (organizations)	23
Table 3 Legal framework in Bangladesh for non-State actors (individuals)	30
Table 4 Legal framework in Bangladesh for non-State actors (organizations)	31
Table 5 Legal framework in Nepal for non-State actors (individuals)	39
Table 6 Legal framework in Nepal for non-State actors (organizations)	40
Table 7 Summary use of policy tools in India, Bangladesh and Nepal	42
Table 8 Summary analysis of field practices Vs legal position with country differences	44
Table 9 Minor veterinary notification in India for long-term trained para-vets	60

Abbreviations and acronyms

AAP	Agricultural Perspective Plan
AI	Artificial Insemination
ASCI	Agriculture Sector Skill Council of India
BS	Bikram Sambat (Nepali Calendar)
CAHS	Community-based Animal Health Service
CAHW	Community Animal Health Worker
CAVE	Community Agro-Vet Entrepreneur
CRP	Community Resource Person
CSO	Civil Society Organization
CSR	Corporate Social Responsibility
CTEVT	Council for Technical Education and Vocational Training
DDA	Department of Drug Administration
DDC	District Development Committee
DLS	Department of Livestock Services
DLSO	District Livestock Service Office
FCRA	Foreign Contribution Regulation Act
FO	Farmers' Organization
GOI	Government of India
ICAR	Indian Council of Agricultural Research
INGO	International Non-Government Organization
IP	Indian Pharmacopeia
JT	Junior Technician
JTA	Junior Technical Assistant
KVK	Krishi Vigyan Kendra
LSC	Livestock Service Centre
LSP	Livestock Service Provider
MoU	Memorandum of Understanding
NEPED	Nagaland Empowerment of People through Economic Development
NGO	Non-Government Organization
OIE PVS	Office International des Epizooties (The World Organisation for Animal Health) – Performance of Veterinary Services
PCB	Pharmacy Council of Bangladesh
SHG	Self-Help Group
SPA	Service Providers' Association
USAID	United States Agency for International Development
VDC	Village Development Committee
VO	Voluntary Organization
VTI	Vocational Training Institute
VV	Village Volunteers for Veterinary Services

Executive Summary

GALVmed's South Asia office is closely working with both State and non-State actors in order to facilitate the provision of animal health tools to poor livestock keepers in rural areas. A better understanding of the policy, legal and administrative framework in targeted countries within the region can help improve the organization's professional engagements, with a more positive outcome. The current study reviews a large number of relevant documents and analyzes the opinions of selected stakeholders on administrative, policy and legal framework vis-à-vis actual practices linked to veterinary service and product delivery. The primary qualitative data gathering focuses more on opinions related to the legal framework, using a structured schedule. The study covers six states in India (Orissa, Bihar, West Bengal, Assam, Nagaland and Jharkhand), Bangladesh and Nepal.

The desk study records the debate on the need and scope for the privatization of veterinary service and product delivery. It also attempts to define key terminologies and a logical basis for some of the regulations. It indicates that the debate still continues on key issues of service delivery (the 'five A's' – availability, accessibility, acceptability, adequacy and affordability). The veterinary service delivery is also closely linked to debate on public health issues such as the control of contagious and zoonotic diseases, food safety, climate change, drug resistance and animal welfare.

The country-wide discussion lists the administrative structure, key policy prescriptions and regulatory framework related to private veterinary service and product delivery. The discussion on administrative framework focuses on existing individual actors and institutions, both in Government and in the private sector, which can complement each other to achieve the goal of reaching the unreached in the context of last-mile delivery of veterinary products and services. The key learning on the administrative and institutional framework includes the growing importance of local self-government in veterinary service delivery. There is also the likely emergence of a Government-certified institution in the field of vocational and skill training, offering relevant courses for field workers, covering the subjects of animal health and husbandry. There is ongoing

administrative debate related to veterinary drug control, which is under the overall control of the Health Department. The study also records administrative innovation; such as one in Nepal whereby community animal health workers are provided with access to additional training for the setting up of licensed pharmacy shops.

The analysis on policy prescription is used to establish formal recognition (if any) of the need for complimentary actions between Government and the private sector. The collated information can guide initial interactions of project managers; helping augment more focused future policy consultations for tangible actions in the form of appropriate incentives for non-State actors. The key learning on the policy framework includes the likely continued presence of Government in curative service delivery in the immediate future. However, cost recovery is the norm and there is increasing recognition for a greater private sector role. The study records a favorable policy to augment farmers' organizations and skill development at community level.

The legal framework of disease control in all the study countries is largely based on meeting the OIE standards. India is the only country in which the secondary legislation of the respective states defines minor veterinary services and permits recognized para-professionals within the government system to deliver such services only under the supervision of registered veterinarians. In India, the Drug Act and the secondary legislation related to Finance Act provide a certain degree of license and tax exemption for veterinarians and veterinary services. In all the study countries, prescription by a veterinarian is mandatory. There is provision only for stationary drug licenses, with the mandatory engagement of a trained pharmacist. This legal provision seriously limits scope for doorstep veterinary drug delivery by para-professionals and community animal health workers (CAHWs). The report analyzes in detail the legal framework associated with drugs and vaccines, primarily focusing on five activities: prescribing, administering, stocking, dispensing and distribution. It describes what is legally permissible for non-State actors, both in an individual and an institutional capacity.

The study highlights the need for improving the coordination between Government and private efforts for the delivery of curative as well as preventive care in remote rural areas, where farming is still a sustenance activity. Preventive service delivery (mostly against scheduled or notified diseases) is a public function, and information sharing with Government is therefore mandatory. The risk of engaging less-trained service providers, such as para-professionals and CAHWs, in service delivery and drug dispensing is the root cause that prevents Government support for private initiatives. Such risk can, however, be mitigated through a designed, regulatory, monitoring and capacity-building framework.

As a recommendation, the study suggests focused public efforts at conducting an opportunity, skill and risk mapping of service delivery by various types of para-professional and CAHWs. This should lead to the development of a detailed occupational standard, a standardized training curriculum, a structured data management system (for sharing with public authorities) and a monitoring framework for animal health events attended by private para-professionals and CAHWs. Such mapping could also help in drawing up an incentive-driven plan to augment collective action and self-regulation on the part of private para-professionals and CAHWs.

For GALVmed, its partners and NGOs active in the implementation of community animal health projects, the report highlights a list of six action areas, mostly related to engagement with CAHWs,

such as the promotion and facilitation of training of CAHWs in recognized institutes, the promotion of collective actions of CAHWs for self-regulation, the defined accountability of hired para-professionals/CAHWs with farmer's organizations, etc. It also suggests the undertaking of an advocacy campaign for secondary legislations aimed at: (a) recognizing and regulating private para-professionals and CAHWs; (b) permitting para-professionals and CAHWs to attend specific training under the Pharmacy Council to register as community pharmacists; (c) permitting dispensing from private mobile facilities, including doorstep dispensing by licenced para-professionals and CAHWs; (d) permission for herd-level prescription by veterinarians; (e) the setting up of an animal identification authority (e.g. facilitating animal identification and data handling by private entities).

Other key recommendations directed at various stakeholders as explained in the report include:

- Opportunities for leadership and project management training in the animal health sector
- Exploring ways to integrate community services following the 'one health' approach
- Development of business acumen of private veterinarians so that they can lead a production-enhancing preventive health care regime in rural areas, along with a group of para-professionals and CAHWs.



photo: Anita Swarup



1 Background

GALVmed (Global Alliance for Livestock Veterinary Medicines) is a Livestock Health Product Development and Adoption Partnership. It focuses on sustainable poverty alleviation by making available and accessible animal health products (vaccines, medicines and diagnostics) to livestock keepers in the developing world who rely on livestock for their livelihood.

In South Asia, GALVmed currently has operations in India and Nepal and is exploring opportunities in Bangladesh.

For the successful implementation of targeted projects, the GALVmed team is in need of a clearer understanding of the policy framework *vis-à-vis*

actual practises in the field related to livestock health products and service delivery in South Asia. In particular, GALVmed seeks to understand the policy constraints and opportunities of using actors outside the public sector/government mechanisms in the delivery of livestock health products and services. GALVmed commissioned Vet Helpline India Pvt Ltd to review the policy, regulatory and administrative framework in the delivery of livestock health products and services. The findings will be instrumental in informing GALVmed's market development and global access strategies and in identifying opportunities for collaboration with stakeholders in the respective study countries.

2 Objective

The study explores the policy constraints and opportunities for actors outside the public sector or government mechanism in the delivery of livestock health products and services. These include private sector veterinarians, para-vets and para-professionals, non-Government organizations (NGOs), community animal health workers (CAHWs), self-help groups (SHGs)/membership organizations and community service organizations (CSOs).

Focusing on both policy and practice, the objective of the study is to:

To provide an in-depth review of the administrative, policy and regulatory framework under which actors involved in the delivery of livestock health products and services operate in the specified countries; viz. India (States of Orissa, Bihar, West Bengal, Assam, Nagaland and Jharkhand only), Bangladesh and Nepal.

In the context of the study, livestock health products are defined as vaccines, medicines and field (point-of-care) diagnostics. Livestock health services are defined as those related to examining the animal, prescribing, selling, distributing, dispensing and administering livestock health products.

3 Methodology

An extensive desk research was conducted initially to:

- 1 Review the international initiatives, debate and trends, particularly on private sector engagement related to the delivery of livestock health product and services.
- 2 Review the relevant provisions of existing Acts of Parliament, regulations and gazette notifications and Parliament discussions in respect to animal health product and service delivery.
- 3 Collate the learning from previous policy landscaping studies and documented success stories/case studies.
- 4 Identify and understand the key stakeholders, their mandate, governance, jurisdiction, constraints and related work process.

Based on the findings of the desk research, a list of guiding questions was developed (see Annex 4) for qualitative interviews with key informants. The administration of the guiding questions was flexible, to allow the study implementing team to explore related and relevant interlinked and transversal issues.

The veterinary service delivery in India is organized at the State level; this required interviews with key informants in the capital city of each of the six identified states. In Bangladesh and Nepal, interviews were conducted in Dhaka and Kathmandu respectively. Other academic hubs, e.g., Mymensingh in Bangladesh and Chitwan in Nepal, were also included. Visits were also made to project offices of a few select known initiatives related to the use of non-State actors for veterinary service and product delivery in each of the study countries.

A general review of key stakeholders (individuals and institutions), their mandate, governance, jurisdiction, constraints and related work process was conducted. Following this, the report authors engaged with various categories of people and institutions, to understand the policy landscape of livestock service and product delivery within the study countries. One-to-one interaction with the select stakeholders was conducted to deepen the

understanding of different perspectives, structures and interpretation of policy and legal provisions. Some of the categories of stakeholders identified in the context of India, Bangladesh and Nepal for qualitative data gathering include:

- Government officials at national/State and operational level in the context of animal health.
- Academic institutions (mostly livestock extension and action research-related academicians).
- Disease control laboratories.
- Drug control authorities.
- Statutory bodies such as Veterinary Councils.
- Private and Government manufacturers of drugs and biologicals.
- Professional, service-based and industry associations.
- Non-Government organizations.
- Farmers and their organizations.
- Traders of drugs, biologicals and diagnostics.
- Private practitioners, para-vets and community animal health workers.
- Social science and legal experts.

A detailed list of relevant individual contacts in each of the study areas was prepared beforehand and requests for formal appointments were made. Detailed trip reports for each of the visits were prepared to document the insights, ongoing dialogues, initiatives, innovations and activities of the various participants.

Using a cloud-based application, attempts were made to systematically arrange soft copies of a large number of secondary documents, e.g., Acts of Parliament, regulations, notifications, policy papers and other publications, to build a database for future reference.

4 Limitations

Considering the relatively large and diverse study area, and the short study period of four months, the interviews were predominantly restricted to a select mix of stakeholders in capital cities. Whenever possible, attempts were made to interact with farmers and service providers in rural areas. The observation on actual field practice and interpretation related to government policies must be viewed within this limitation.

There is also limited availability of published work reviewing the policy landscape of veterinary products and service delivery in South Asia. The report of OIE-PVS for Bangladesh and Nepal, though available, could not be accessed for this study.

Often, interviewees were not aware of legal provisions. The triangulation was challenging, due to numerous differing interpretations. Because of this, the time allocated was not enough for a deeper pursuit of the issues.

5 Literature Review

Many developing countries started a drive for the privatization of veterinary services during the 1990s. The role of the private sector in livestock service delivery is highlighted by numerous authors. Umali *et al.* (1992)¹ analyzed the economic nature of each livestock service, the results of which were used to generate a framework for establishing appropriate Government and private sector roles in livestock service delivery. Holden (1999)² also demonstrated the use of economic theory to identify services such as treatment, sale of drugs and vaccines and diagnostic services, etc. that could be financed by the private sector, allowing scarce resources of the State veterinary services to be focused on the provision of public good services, such as epidemic disease and drug quality control. Focusing on developing countries, Sen & Chander (2003)³ reviewed privatization of veterinary services and opined that private provision alone is not optimal, and that a blend of private and public sector veterinary services is required to utilize the virtues of both. Ahuja (2004)⁴, in describing the public/private role in livestock service delivery, highlighted the need for strong institutions and appropriate legislation to regulate private behavior and to enforce contracts. He also emphasized the

need for ensuring service access in poor marginal areas by working through membership organizations, self-help groups and civil society organizations, and by promoting the use of para-professionals and community-based animal health delivery systems. Cheneau (2004)⁵ conducted an assessment of the strengths and weaknesses of current veterinary service delivery in developing countries. He demonstrated the trend towards further privatization of selected tasks, the decentralization of decision making and a move towards more focus on public goods service delivery by State veterinary units. Riviere (2005)⁶ discussed the lessons from community-based actions in human health and highlighted the need for policy analysis in order to support attempts at scaling up community-based animal health systems.

Woodford (2004)⁷ discussed organizational and institutional relationships that facilitate the process of privatizing animal health services in developing countries. He also highlighted the concept of 'principal' and 'subsidiary' legislation, which can provide the necessary flexibility in the regulation of the delivery of animal health services in accommodating the rapid changes.

1 Umali Dina L, Gershon Feder & Comelis de Haan, The balance between public and private sector activities in the delivery of livestock services, *The World Bank discussion papers* 163 (1992)

2 Holden S, The economics of the delivery of veterinary services, *Rev.sci.tech.Off.int.Epiz.* 1999, 18 (2), 425-439

3 Sen A & Chander M, Privatization of veterinary services in developing countries-a review, *Tropical Animal Health and Production* 2003, 35(3), 233-236

4 Ahuja V, The Economic Rationale of public and private sector roles in the provision of animal Health services, *Rev.sci.tech.Off.int.Epiz.* 2004 23(1), 33-45

5 Y. Cheneau, A.H. El Idrissi & D. Ward, An assessment of the strength and weakness of current veterinary systems in the developing world, *Rev. sci. tech. Off. int. Epiz.* 2004, 23 (1), 351-359

6 Cinnamon Ana Riviere, Animal Health Policy and Practice: Scaling-up community-based animal health systems, lessons from Human Health, *FAO-PPLPI working paper* No.22 (2005)

7 Woodford J D 'Synergies between veterinarians and para-professionals in the public and private sectors: organizational and institutional relationships that facilitate the process of privatizing animal health services in developing countries': *Rev. sci. tech. Off. int. Epiz.*, 2004, 23 (1), 115-135

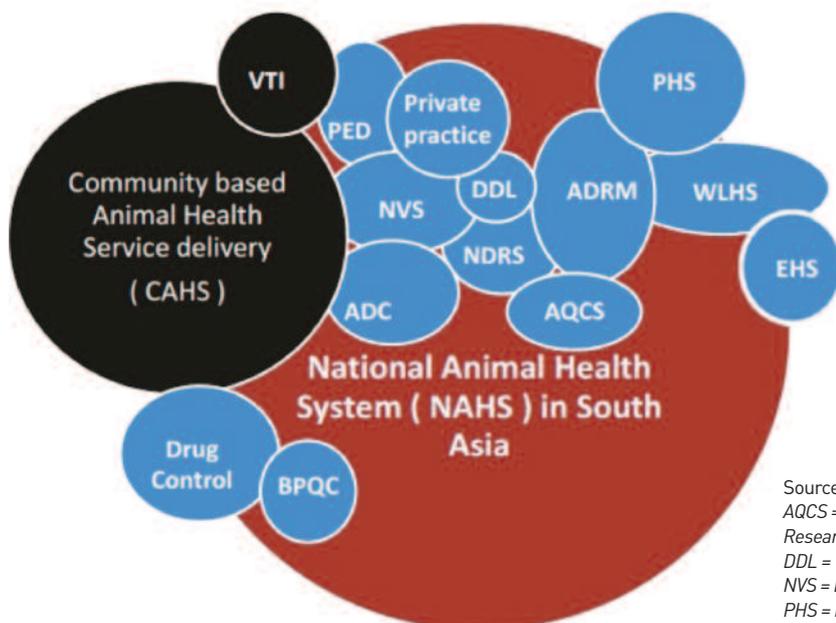
The work of Ahuja and Sen, as mentioned above, indicated limited reforms in policy, legal and administrative set ups in countries such as India, Pakistan and Bangladesh to stimulate private veterinary service delivery. There are concerns pertaining to quality care, accessibility and sustainability that are linked to private service delivery. A background paper (Ahuja *et al.*⁸) on India, prepared for the World Bank review of the livestock sector during 2008, highlighted the contested issue of alternative service delivery using non-State actors such as CAHWs. This report also indicated ongoing efforts in the Indian states of Andhra Pradesh and Odisha to augment consultations in this regard. There are published documents, mostly by NGOs in South Asia, which discuss the largely positive impact of community animal health systems. The majority of NGO-led projects involve the supply of veterinary medicines to community-based animal health workers (CAHWs) from private veterinary pharmacies. Literature on the constraints and impact of drug delivery through CAHWs in South Asia is scarce. The impact study of drug delivery through CAHWs in Kenya by Gezu & Jeremiah (2009)⁹ recorded sustainable financial performance and clinical competence.

The discussion above indicates preliminary work by researchers to establish the need and specific roles of the private sector in veterinary service delivery

(including a community-based animal health system) in developing countries. The debate on private sector participation in 'last-mile' service delivery continues, however, covering all the five A's of service delivery: Availability, Accessibility, Acceptability, Adequacy and Affordability. Community-based Animal Health Service delivery (CAHS) is yet to be integrated into the National Animal Health System in South Asia. The public health concerns linked to CAHS delivery relate to food safety, drug resistance, control of contagious diseases and animal welfare. Vocational training institutes (VTIs), too, have a limited role in training community-level health workers and other supervisory-level skill service providers in the field of farming. **Figure 1** shows the usual relationship between the various components of the National Animal Health System in South Asia.

As in other parts of the world, services such as veterinary treatment, sale of drugs, vaccines and diagnostic services are increasingly being financed by the private sector in Bangladesh, Nepal and India. Private or NGO-led CAHWs are active in these countries. However, limited progress has been made so far in terms of policy and legislative arrangements and institutionalization of CAHWs. In the absence of clear policies, most of the promoting NGOs are having difficulties in scaling up successful interventions linking CAHWs with a National Animal Health System.

Figure 1 Components of National Animal Health System (NAHS) in South Asia



Source: M I Barbaruah (2014). Abbreviations: ADC = Animal Disease Control; AQCS = Animal Quarantine and Certification Service; ADRM = Animal Disease Research and Monitoring; BPQC = Biological Product Quality Control; DDL = Disease Diagnostic Labs; NDRS = National Disease Reporting System; NVS = National Veterinary Service; PED = Professional Efficiency Development; PHS = Public Health Service; VTI = Vocational Training Institute; WLHS = Wildlife Health Service; EHS = Environmental Health Service

⁸ Ahuja V, Rajasekhar M & Raju Ramalinga, (2008) Animal Health for Poverty Alleviation: A Review of key issues for India, Background paper prepared for "Livestock Sector Review" of the World Bank

⁹ Bekele Gezu & Akumu Jeremiah (2009), Impact Assessment of the Community Animal Health System in Mandera West District, Kenya

In any country, private actions are governed by legislation pertaining to veterinary practice, control of drugs and infectious diseases. Compiled lists of such veterinary legislation prevalent in SAARC countries such as Bangladesh, India and Nepal are available online¹⁰.

The acts of prescribing, selling, stocking, distributing, dispensing and administering livestock health products are an integral part of livestock service delivery. Prescribing is defined as advising and authorizing the use of a medicine or treatment for someone, especially in writing¹¹. Generally, the writing of a prescription is a prerogative of registered veterinarians only. There are uniform guidelines released by competent organizations in each of the study countries on the ways or the format of writing prescriptions. However, in all the three countries examined (India, Nepal and Bangladesh) there is no rule that would mandatorily require a veterinarian to provide a client with a written prescription.

The medical dictionary defines drug dispensing as the preparation, packaging, labeling, record keeping and transfer of a prescription drug to a patient or an intermediary, who is responsible for administration of the drug. The cognitive component of dispensing involves assessing the therapeutic appropriateness of the prescription, being able to make recommendations to the prescriber and advising the patient/client. As a rule of thumb, the function of prescribing and dispensing has to be done by a doctor and a pharmacist respectively. This is primarily to prevent any incentive for doctors to prescribe more in order to make a profit from the sale of drugs.

Similarly, a review of definitions worldwide indicates that administering a drug to an animal means directly applying the drug, whether by injection, ingestion or any other means, to the body of the animal. A review of existing veterinary legislation in India, Bangladesh and Nepal indicates that activities such as the prescribing and administration of drugs are controlled by veterinary practice-related legislation. On the other hand, activities such as selling, stocking and distribution are governed by the Drugs Control Act. The relevant Acts in the context of the studied countries have failed to clearly define veterinary practice vis-à-vis husbandry-related activities. The concept of 'minor veterinary service', mostly covering certain treatments and administration of drugs, is described in the veterinary practice-related Act of India. Indian states are empowered to notify these practices, permitting trained and recognized para-vets to carry them out. Veterinary drugs in all the study countries are managed under policies and legislation that are mostly designed for human drug management. According to the existing drug acts in all the study countries, dispensing by para-vets and/or CAHWs is illegal.

The Acts pertaining to the control of infectious diseases also influence livestock service delivery, as they have mandatory provisions pertaining to disease control measures such as vaccination and the reporting of disease-related events.

A regulatory legislation related to drug control requires one to apply for a retail or wholesale 'Drug license' to engage in activities such as the stocking, distribution and dispensing of medicines, vaccines and diagnostics. To obtain a retail drug license, generally it is mandatory for an establishment carrying out dispensing activities to have a pharmacist owner or a pharmacist employee. In most cases, a 'Drug license' is required over and above a trade license. A trade license is issued by municipalities, or other local self-government offices, for the purposes of business registration and revenue generation for the State.

Legislation relating to infectious and contagious disease control generally covers issues such as animal movement control, preventive actions, mandatory disease reporting, the issue of health certificates, etc. Such legislation also empowers the Government to control private actions such as vaccination against scheduled or notifiable diseases.

There are limited country-specific published reports in South Asia on the existing demarcation of the roles of the public and private sector, or on the policy, administrative and legal framework of veterinary services and product delivery. The OIE-PVS reports for Bangladesh and Nepal are not in the public domain and hence could not be reviewed for this study. However, considering OIE's focus on ensuring wider animal health service coverage, it is likely that these reports will highlight the need for dialogue to find ways of integrating the existing private community-based animal health service delivery with a national animal health system in these countries. OIE has acknowledged the role of para-professionals and suggested that governments that choose to sanction their existence should develop an appropriate regulatory framework to ensure the quality of veterinary services. There are general reports and/or private publications that document success stories of alternative (other than Government) service delivery in Bangladesh, Nepal and India. These reports are, however, silent on the legal aspects of service delivery or constraints in using non-State actors.

In order to take the debate of private participation in 'last-mile' veterinary service and product delivery to a higher level (e.g., enactment of new policy and institutionalization through an appropriate legal, administrative framework) in South Asia in general and in the study countries in particular, it is imperative to document the existing policy landscape.

¹⁰ http://saarc-sec.org/areaofcooperation/detail.php?activity_id=48

¹¹ Oxford Dictionaries

6 Findings

6.1 India

Administrative and institutional framework

India launched the National Animal Disease Reporting System (NADRS) and a web-based GIS platform (National Animal Disease Referral Expert System – NADRES) to support the surveillance and control of livestock diseases. The Department of Animal Husbandry Dairying and Fisheries (DADF) of the Government of India is supporting various national institutions (e.g. Animal Quarantine and Certification Services, National Veterinary Biological Products Quality Control Centre, Central and Regional Disease Diagnostic Laboratories) and State governments for livestock health and disease control. Under the 12th five-year plan, there are funds earmarked for specific components under Livestock Health and Disease Control. These are: Assistance to States for Control of Animal Diseases (ASCAD); the Foot and Mouth Disease Control Programme (FMD-CP); the National Control Programme of PPR; the National Project on Rinderpest Eradication; the National Brucellosis Control Programme; and the National Animal Disease Reporting System.

Since veterinary service delivery is a State subject, and most of the activities related to ground supervision of drug control (pre-/post-licensing inspection, administrative actions, investigation and prosecution in respect to contravention of legal provision, etc.) also lie with the State government, the mandate for delivery of veterinary services at the farmer level lies within institutions in the respective State, rather than with the national institutions. All the states covered under the study have independent veterinary directorate and State drug control offices under the health department. These institutions served as nodes for the administrative control of public service delivery and regulatory control. With increasing emphasis on decentralization, the local self-government is also collaborating with State departments and private agencies in implementing veterinary service delivery and disease control programs. The study observed that village councils in Nagaland enjoy extraordinary powers through the Nagaland Village Council Act 1978.

Nagaland is relatively known for its special constitutional status under Article 371 A of the Constitution of India, which protects the Naga customary laws. Each village council in Nagaland has a village development board (VDB) that looks after the day-to-day management of development activities within the village council jurisdiction. It is to be noted that village councils in Nagaland can receive grant-in-aid and also engage in revenue-generating activities. However, this rarely happens. The State government provides direct grants to village councils following a standard formula. The structure of the VDBs is inclusive in nature and ensures women's participation. The district collector is the *ex-officio* chairman of the VDB. The learning pertaining to the village council indicates possibilities for innovative veterinary service and product delivery arrangements in India involving local self-government.

The states covered under the study have functional State veterinary councils. Interviews conducted indicated that State councils are less empowered to play a stronger regulatory role.

Under the public delivery system, the State distributes vaccines for scheduled diseases only. Generally, this distribution is free of charge¹². In some of the study states, veterinary departments produce vaccines within an in-house facility. However, production is inadequate in the majority of cases. There are approved Government and private laboratories across the country, from where states can make central purchases. The State sends its requirement beforehand and, accordingly, a certain quantity is earmarked for that State by the central Government. The vaccine procurement within the country is largely transparent. However, there are notions in some quarters that Government-supplied drugs and vaccines are inferior. There is, as yet, no transparent information system to know the vaccination coverage in a State *vis-à-vis* the disease outbreak patterns. There are no independent studies to confirm the extent of vaccination and herd immunity status.

¹² The exception is the Government of Odisha, which charges livestock owners for vaccination.

The top national research organizations, such as the Indian Council of Agricultural Research (ICAR), do implement partnership and stand-alone projects in various states and, as such, act as a resource point for various State governments and private service providers. The study recorded an instance in Nagaland where an ICAR facility is providing training to farmers in the artificial insemination of pigs. It is to be noted that ICAR is supporting a total of 143 frontline agricultural extension centres (*Krishi Vigyan Kendras – KVKs*), covering almost every district in the states covered by the study. The majority of KVKs have a full-time subject-matter specialist on veterinary and animal husbandry.

All the states under study, except Nagaland, have graduate veterinary colleges recognized by the Veterinary Council of India¹³. These colleges, besides serving as think-tanks to guide leaders, maintain provisions for ambulatory clinic and extension services. Bihar Veterinary College provides short-term training to artificial insemination (AI) workers. The study recorded the growth of vocational training centres in all the study states¹⁴. A private university in Odisha¹⁵ has been found to be very active in skill and vocational training in rural areas through its various social ventures. Ramakrishna Mission Ashram, in Narendrapur in West Bengal, is playing an active role in training grassroot-level extension workers. With Government approving short-term vocational courses such as those for animal vaccinators, clinical attendants, etc., these institutions are likely to play a crucial role in supplying much-needed trained manpower in rural areas for veterinary service delivery. Interviews conducted with veterinary department officials indicated little awareness of initiatives related to the augmentation of formal and recognized vocational training in areas such as animal vaccinators, etc.

A large number of national and local NGOs, community-based organizations, cooperatives, agri-clinics and agri-business centres were found to be active partners in last-mile veterinary service delivery within the study states. National NGOs, such as the Bharatiya Agro Industries Foundation (BAIF) and the J K Trust, partner with the governments of Bihar, Jharkhand and Odisha to provide artificial insemination

services through integrated livestock development centres. The National Smallholder Poultry Development Trust (NSPDT) in Jharkhand and the Nagaland Pig Farmers Association (NPFA) in Nagaland are two other emerging organizations which provide training to local youths and women in rural areas to vaccinate poultry and to conduct artificial insemination and healthcare in pigs, respectively. The study also recorded the presence of a private company (Patna Animal Development Private Ltd) that provides doorstep AI services across Bihar. The diversified conglomerate ITC Ltd. has made investments in milk processing in Bihar's Munger district. With a strategic objective of strengthening the supply chain, ITC is planning to invest corporate social responsibility (CSR) funds to augment innovation in service delivery, such as linking it with a data-recording system and sharing the data with farmers and para-vets for protocol-based services in targeted milk shed areas. The study observed that in the commercial dairy belts of Bihar, service providers are engaged in fierce competition. This indicates the need for strong regulation and planned training of manpower to ensure the livelihood sustainability of village-level service providers. The study did not document any initiatives such as self-help groups of para-vets or producer companies of para-vets exclusively engaged in private service and product delivery.

Policy framework

The Indian Constitution defines the power distribution between the Federal Government (the centre) and the states in India. The legislative power is divided into three lists: Union list, State list and Concurrent list. Veterinary service delivery is a subject under the State list. This means that the State legislature has exclusive power to make laws pertaining to veterinary service delivery. However, there are national-level policy guidelines and relevant central Government acts which the states adopt. The rules pertaining to these central acts are however, notified by the states.

On the other hand, drug control, which is essentially linked to veterinary service delivery, is listed on the Concurrent list, where both State and central Government share responsibilities and perform defined activities.

¹³ There is an ongoing initiative in Nagaland to set up a veterinary college

¹⁴ Refer www.sdi.gov.in

¹⁵ Centurion University

The National Livestock Policy, 2013¹⁶ of the Government of India recognizes the importance of the complimentary role of the private sector and NGOs with adequate experience in the field of livestock extension, development and technology transfer. According to the policy, the Government will continue to improve and expand veterinary services through State-owned facilities, with an appropriate system of recovery of cost wherever feasible. The policy also indicates that private investment to improve the delivery of animal health services, including facilities provided by private veterinary graduates, will also be encouraged. Similarly, it also mentions that mobile veterinary dispensaries with provision for vaccination and facilities to generate awareness of farmers regarding various livestock management issues will be promoted, to improve outreach. Whilst emphasising prevention and control of infectious diseases as a public function, the policy document mentions that the Government will gradually expand preventive services by involving NGOs, cooperatives and private veterinary practitioners. The policy encourages the organization of livestock farmers as self-help groups (SHGs), Farmer Producers' Organizations, and Producers' Companies, etc. for the delivery of credit, inputs and marketing opportunities.

The need and promotion of para-veterinarians (CAHWs) for last-mile service delivery has not been emphasised in the national policy document. The document is also silent on any strategy to disinvest from curative care in potential production belts to promote private service delivery. Implementation of the policy however, will depend on State initiatives. Interviews conducted during the study indicated that specific policy initiatives on the promotion of CAHWs have been left to the wisdom of the respective states.

To encourage graduates to set up private clinics, the Government of India is running a flagship central sector scheme called the 'Agri-clinic and agribusiness centre (ACABC) scheme'. The budget outlay for the scheme during FY2013–14 is INR 210 million. The scheme has training and subsidy components and covers various other business areas in the field of agriculture in general. The scheme

implementation records for the last three years (up to March 2014) indicate that only 398 private veterinary clinics were set up in India with assistance from the scheme¹⁷.

The Government of India has recently focused on skills development¹⁸ and livestock farming, and veterinary service delivery is one of the chosen areas where short courses have been suggested. The Directorate General of Employment and Training, Ministry of Labour and Employment have published a detailed syllabus of courses on animal husbandry and meat processing, including courses such as animal vaccinator, animal/clinical attendant, etc. Many open universities also offer certificate-level courses to a semi-literate workforce. In order to provide impetus to improvement in veterinary education and research, the Government of India has taken a policy decision to establish veterinary and animal science universities. Except for West Bengal, the veterinary institutes of the other states covered under the current study continue to be part of the respective State Agricultural Universities. These institutes predominantly act as centres for 'trainers' training'.

In 2011, the National Policy for Containment of Antimicrobial Resistance (NPCAR) was formulated. The policy covers a range of areas, including curbing antibiotic use in animals. The drug control authority in India is introducing (effective from March 2014) a new Schedule H1 (now called HX), to regulate the use of certain listed antibiotics, preventing over-the-counter sales.

In July 2010, the Central Drugs Standard Control Organisation (CDSCO), New Delhi, under the aegis of the Ministry of Health & Family Welfare, Government of India, initiated a nation-wide pharmacovigilance programme. The National Coordinating Centre (NCC) for monitoring adverse drug reactions (ADR) currently operates from the Indian Pharmacopoeia Commission (IPC), Ghaziabad, (U.P.). There are altogether 150 ADR monitoring centres across the country. However, not much information is available about whether these centres also record complaints of adverse drug reaction of veterinary formulation.

¹⁶ Refer section 6.1, 7.2, 13.1.1 and 13.2

¹⁷ Statewise progress report of the scheme is available at: <http://www.agriclinics.net/queriesheet.asp>

¹⁸ Reference: Establishment of National Skill Development Council (NSDC) and Skill Development Initiative Scheme-2013 of directorate general of employment and training.

The seventh edition of Indian Pharmacopoeia (IP) 2014 was released on 4 November 2013. For the first time, veterinary product monographs are an integral part of this edition. Interviews conducted during the study indicated a renewed interest by the drug control administration in India in veterinary drugs and their distribution. There is a proposal¹⁹ to set up a separate Veterinary Drug Control Authority under the Ministry of Agriculture.

Only one of the State governments covered under the study (Odisha) has its own policy documents²⁰ that provide for doorstep veterinary service delivery. In Bihar and Nagaland, although there is no written policy document, the governments are taking policy steps aimed at facilitating private sector participation in doorstep service delivery. In the case of the State of West Bengal, all initiatives are aimed at strengthening and expanding public sector service delivery up to village level only. The governments of Assam and Jharkhand are yet to take any policy initiative to augment private participation in doorstep veterinary services²¹. Both states, on the other hand, have been making investments mostly at improving existing static public service-linked facilities, e.g. hospitals and dispensaries.

In Odisha, the State government has taken progressive steps as far as a veterinary service delivery approach is concerned. Instead of the usual mass-centric approach, where the focus is on service delivery from static public facilities such as hospitals and dispensaries, the focus is for a gradual client-centric (reaching out to the doorstep of the client) approach. There are ongoing investments in provisions such as mobile veterinary units (covering all the 314 blocks²²), human resources (training and recruitment), and infrastructure development to make this happen. The recovery of service charges and their redistribution to select Government-promoted societies (e.g.: the Odisha Livestock Resource Development Society; the Society for Management of Information, Learning and Extension (SMILE) for training and capacity building; the Society for Prevention of Animal Diseases (SPAD); the District Livestock Resource Development Society

(DLRDS)) are bold policy steps in the light of growing public finance constraints and increasing demand from farmers for quality consistent service. Odisha is also one of the very few states in India with a livestock policy document²³ accepted by the legislative assembly (Rangnekar & Maars 2009)²⁴. The State has also recently published its 'Agriculture Policy 2013'. This highlights the priority for doorstep veterinary services at community level. The interviews conducted during the study, however, indicated that although the State government informally encourages the use of community animal health workers, it does not publicly or formally recognize this cadre. This is primarily due to the fear that the community workers, once formally recognized, may group and demand government jobs in the long term. It is to be noted that, under a central scheme, the National Project for Cattle and Buffalo Breeding of the Government of Odisha has trained around 1,650 private artificial insemination workers²⁵ and they are now legally allowed to vaccinate and provide first aid services at community level.

Recognizing the need for community-level veterinary services, the State Government of Bihar, through the veterinary department, is now taking steps to appoint *Pashu Mitras* ('friends of animals') at every *panchayat*²⁶ level. Under the rural development department's flagship program *Jeevika*²⁷, the Government is promoting village resource people (VRPs), including those with specialization in poultry and dairy. In Bihar, up to 70% of private animal health workers (including AI workers) do not have any formal institutional training. They have mostly learned the skill whilst working either under a practicing veterinarian or with other senior animal health workers. To augment skill development and to ensure continuous availability of manpower for veterinary service delivery in rural areas, the department has issued directives to all concerned regarding the implementation of skill development training pertaining to seven identified courses under the Skill Development Initiative scheme of the Government of India. Two of the identified courses of relevance to community-level veterinary service delivery are 'animal vaccinator' and 'clinical assistant/animal attendant'.

¹⁹ Forty-eighth Report on the Demands for Grants (2013-2014) of the Ministry of Agriculture (Department of Animal Husbandry, Dairying and Fisheries).

²⁰ State Agricultural Policy-2013 and Orissa State Livestock Sector policy, 2002

²¹ Draft State Agricultural Policy of Jharkhand-2011 and Draft Dairy Policy-2008 of Assam are still waiting for approval of legislature. Assam Agricultural Policy and Assam Vision 2025 on Agriculture have no chapter related to Livestock.

²² Administrative sub divisions in India

²³ Orissa State Livestock Sector Policy, 2002

²⁴ Rangnekar D V and Lucy Maars, Light Assessment of Livestock Policy Formulation and its Implementation in Orissa. Document 020, SAPPLPP (2009)

²⁵ Known as *Gomitras*

²⁶ Local Self Government in India

²⁷ Bihar Rural Livelihood Promotion Society

As a policy initiative, the Government of Nagaland is planning to promote village volunteers for veterinary services (VV). The VVs can be compared to CAHWs, but the Veterinary Department's prime intention in creating the cadre of VV is to ensure collection of village statistics, improve the extension system and ensure reporting of notifiable diseases. The VVs will not be legally allowed to administer medicines/ vaccines. They are also not supposed to be employed under the Veterinary Department and must be a resident farmer of the village where they will serve. The Veterinary Department is still consulting on required legal provisions (if any) to govern the services of VVs. It is exploring the possibility of attaching the VVs to village councils²⁸, whereby the village council will monitor their service and pay a nominal honorarium. A favourable policy environment in Nagaland for private activity can be judged from the fact that the Department has recently facilitated a livelihood support and service delivery-related project in the piggery sector, undertaken by the Navajbai Ratan Tata Trust (NRTT). The Trust is partnering with the International Livestock Research Institute (ILRI) and other local partners, including the Nagaland Empowerment of People through Economic Development (NEPED) and the Nagaland Piggery Farmers Association (NPPFA). The NEPED, under the project, has already trained 92 village animal health workers. However, these workers are still not under any legal framework. The ILRI has developed a standard training manual for animal health workers in the piggery sector. Interviews conducted during the study indicated the Government is promoting an organization called the 'Agency for Porcine Foundation and Development of Nagaland' (APFADON) as a special-purpose vehicle to promote the piggery sector with private-sector partnership.

In the case of West Bengal, the State policy favours predominantly public veterinary service delivery. There is limited scope for independent private service delivery. The Government is promoting 'small animal vaccinators' ('Prani Mitra') from amongst members of self-help groups (SHGs) in self-employed mode for the large-scale vaccination of small animals and poultry birds under the overall management of the Government. There is, however, no clarity on the legal status of this proposed category of community animal health workers.

As far as breeding services in large animals are concerned, an organized partnership with the private sector was observed in Odisha, Bihar and Jharkhand states. The Indian Council of Agricultural Research (ICAR)²⁹, Nagaland centre, has recently provided short-term hands-on training to 27 participants from eight districts in the artificial insemination of pigs. Interviews conducted in Bihar indicated that Government freebies in the form of subsidized semen straw often create problems for private organizations who aim for sustainable revenue generation.

To encourage, enable and empower an independent, creative and effective voluntary sector, the Government of India established a 'National Policy on the Voluntary Sector' in 2007. In India, private sector activities promoted with foreign funding are sometimes viewed with scepticism by some stakeholders, as they believe that international development agencies work mostly with ulterior motives³⁰. This was also evident during the study. Inability to engage with local stakeholders and inadequate communication are some of the reasons for the failure of various externally-funded development initiatives to take off in India. The Planning Commission in India has suggested that the voluntary sector be brought under the umbrella of the Right to Information Act, along with developing a code of conduct to ensure greater transparency and accountability. At present, only those voluntary organizations which receive public funds come under the scope of the Right to Information Act.

Secondary data and interviews conducted with State actors in most of the states indicate an enhanced flow of public funding to State veterinary departments in the last few years. Implementation of plan schemes of the Government of India will likely see major reforms during the twelfth five-year plan (2012–2017), with more flexibility in the design of the schemes to reflect the ground realities across the states and to ensure innovation. Officials interviewed have informed the study about new guidelines to promote convergence at the level of implementation to prevent duplication and to create synergies that improve the quality of outcomes. The new plan approach will open up opportunities for public-private collaboration in designing and implementing innovative State-level programs.

²⁸ Nagaland has a special constitutional status vide article 371 A of the Constitution of India. Village councils are the local self-government with extraordinary executive and judicial power (vide Nagaland Village Council Act, 1978)

²⁹ A Government agricultural research organization with specialized institutes across the country

³⁰ Refer various controversies e.g. US-funded NGOs and the Kudankulam Nuclear Power Plant in Tamil Nadu

There is, however, limited capacity to plan and implement programs and projects. The Government line departments are generally interested in partnership with private agencies not for their funding capability, but for their development ideas and competency in the execution of programs. This understanding is crucial for ensuring effective engagement between private organizations and government agencies in India.

Regulatory (Legal) framework

Veterinary service and product delivery in India is regulated primarily through three Acts of Parliament: the Indian Veterinary Council Act, 1984 (along with related respective State Acts); the Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009 (with rules as declared by states according to central Government guidelines); and the Drugs and Cosmetics Act, 1940 (Amended 2008³¹ and Drugs and Cosmetics Rules, 1945 with amendments thereof).

Section 30 of the Indian Veterinary Council Act, 1984 states that “no person other than a registered veterinary practitioner shall hold office as a veterinary physician or surgeon or any other such office in Government or in any institution maintained by local or other authority”. The Act is silent on offices in private institutions in this regard. Similarly, the same section also states that no person other than a veterinarian can practice medicine in any State. The practice in this context involves the diagnosis of diseases and preventive and curative care (including surgical intervention). However, State governments may permit any person holding a diploma or certificate issued by the State directorate of animal husbandry, or by any recognized veterinary institution in India, to render minor veterinary services (these are minor animal health-related interventions to be notified by the states). The Act specifically states that minor veterinary services must be rendered under the supervision and direction of a registered veterinary practitioner.

Although there is no definition of ‘supervision’ and how it needs to be carried out, one interpretation recorded during the study is that para-vets will be required to maintain a log book of all the work he/she attends and completes, which will then be signed by a supervising veterinarian. It is unclear how many para-vets a

veterinarian can supervise at any one given time. None of the states covered under the study have a veterinary practitioners’ manual. It is also suggested that each State will maintain a system of registration of State-trained para-vets. As of now, para-vets in all the study states are not registered under any separate regulatory council. There is no perceived need within the study states for this, as no private institutes have been producing diploma or certificate-passed para-vets. Opinions regarding the regulation of para-vets by a veterinary council differ from State to State.

The majority of people interviewed indicated that since para-vets are supposed to work under the supervision of veterinarians, they are indirectly regulated by the veterinary councils of the respective states. None of the states’ rules however, have the provision for disciplinary action on veterinarians for failing to supervise para-vets. Except for the code of ethics for every registered veterinarian developed in pursuance of the spirit of the Act, at the national level there are no specific guidelines for veterinary services provided by non-State actors. All the states covered under the study, except Bihar, have issued respective notifications on minor veterinary services. The content of these notifications is fairly elaborate and varies slightly (mostly in wording) from State to State (see Annex 2 for an analysis of notifications) but, in general, these notifications include the rendering of preliminary veterinary aid such as vaccination, castration, dressing of wounds, etc.

The central Government, in some recent directives to states, has asked State governments to remove artificial insemination from the list of minor veterinary services. It has also requested comments from the states on a suggested 15-month curriculum for para-vets, which would harmonize State-sponsored para-vet training within the country. It is to be noted that the removal of AI services from minor veterinary services is primarily to ensure AI as a husbandry or non-veterinary activity. This will permit dairy cooperatives and other organizations to employ/engage short-term trained people for AI services without the supervision of veterinarians. In many Indian states, the rendering of AI services through short-term trained manpower under contractual or private set up is a common practice³².

³¹ Drugs and Cosmetics (Amendment) Bill, 2013 was tabled in Parliament on 18th December 2013. The Bill amends the Drugs and Cosmetics Act, 1940 and changes the name of the Act to the Drugs, Cosmetics and Medical Devices Act. The new proposed Act has a revised approach to centralized licensing in respect of seventeen categories of very critical drugs and separate regulatory provisions for medical devices and comprehensive provisions for regulating clinical trials.

³² They are known by various names such as *Gomitra*, *Gopalmitra*, *Prani Bandhu* etc.

Amongst the study states, as of now only West Bengal and Odisha have issued notifications to remove AI from the minor veterinary services list. In the context of the harmonization of para-vet training, not much progress has been made. Some states have formed committees to look into the suggested syllabus and to explore the possibilities of harmonizing para-vet training.

Veterinarians and State-trained para-veterinarians employed within the State government set-up are often permitted to engage in private practice. The study recorded this in Assam, Odisha, Bihar and Jharkhand. In Nagaland and West Bengal, veterinarians are entitled to draw a non-practicing allowance (NPA), which means they are not allowed legally to engage in doorstep private practice. It is to be noted that, as per the Veterinary Council of India's notification pertaining to the code of ethics, practicing veterinarians should not run an open shop for the sale of medicines for the dispensing prescriptions by doctors other than themselves. However, a veterinarian can apply for a drug licence from a competent authority to run a wholesale or retail business for drug distribution.

The Government of India has enacted the Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009. The Act is currently in force all over India. The gazette notification dated 14th December 2010 of the Ministry of Agriculture highlights various rules, responsibility centres and procedures pertaining to the Act. As per the rule notified by central Government, besides directives related to animal movement control, a State government needs to notify agencies/individuals competent to vaccinate animals and issue vaccination certificate under section 9 of the Act in a controlled area, a free area and an infected area. The GOI rule makes it mandatory for a vaccinator to issue a certificate to the owner within three weeks and maintain a proper record of vaccination. There are standard formats for giving out these certificates, which must be bilingual (at least one vernacular language). None of the states covered under the study have prepared and notified the rules in their respective context. In the case of Odisha and West Bengal, the department has already prepared the rules, which are currently awaiting gazette

notification. The draft notification prepared by these states, however, mostly focuses on animal movement control, and the format for various certificates such as post-mortem, vaccination and health certificates, etc. None of the states have any precedence of notification for who (individual/organization) can vaccinate in a control area, a free area or in infected areas.

As interpreted from the Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009, any preventative care (including vaccination) for scheduled diseases is considered as a public function. Private/NGO sector service providers are considered to play only a complimentary role. It is, therefore, mandatory for a private service provider (or any other non-State actor) to inform and cooperate with officials of the State veterinary department when implementing mass vaccination programs against scheduled notified diseases. When asked about guidelines for private sector activity on non-notifiable or scheduled diseases, the general interpretation was that information sharing is not mandatory, but that it is encouraged for better implementation of activities.

The interpretation from the Drug Act was found to be uniform in all the states covered under the study. A drug license (wholesale/retail or combination – as per requirement) which is issued against the name of an owner or employed pharmacist (in the case of a retail licence only) is required to sell veterinary drugs, vaccines and diagnostics. No such license is required for Government establishments, or when the selling of a drug is done under arrangements made by the State government³³. A wholesaler may also seek a special mobile vehicle license to distribute drugs and vaccines to retail pharmacies in remote areas. This is important in the context of rural service delivery. This mobile license provision is, however, only for distribution to stationary rural retail pharmacies and not for distribution to mobile community health workers. In the case of human health, various categories of health workers are working under the National Rural Health Mission (NRHM) in India; 'schedule K' of the Drug Control Act in India gives them exemption from licence.

³³ Refer Schedule K, Rule 123

For the transportation and dispensing of vaccines (more particularly ones that are not thermostable) special permission is required from a State drug controller. One needs to certify that the cold chain will be maintained. The State drug controller is mandated to check the quality of imported drugs and vaccines as they enter a State. An importer must produce documents issued by the Drug Controller-General of India to get permission for the sale of such imported drugs and vaccines within local jurisdiction. An importer in this case must be a registered organization. It should be noted that, as per Rule 33 of the Drugs and Cosmetics Acts and Rules, a license in Form 11 is granted to companies for the import of small quantities of drugs for the purposes of examination testing or analysis. An individual can also apply for the import of prescription drugs meant for his/her animals.

Only veterinarians registered under a State/national council are considered as registered practitioners under the Drugs and Cosmetics Act. This can be interpreted as meaning that that only registered veterinarian can issue prescriptions.

A retail drug licence is issued against the name of an owner or employed pharmacist only. A pharmacist must be one who is registered with the Pharmacy Council of India. It is necessary to ensure that a pharmacist employed in his/her pharmacy is not attached to any other retail drug shop. A retail drug store needs to inform the relevant authorities regarding a change of pharmacist (if any). This is required because the State directorate of drug control makes an endorsement on the reverse side of the pharmacist's certificate indicating the name, address and drug license number of an authorized retail counter. In the case where the pharmacist leaves a job and joins another retail drug shop, a fresh endorsement is required to his/her certificate. In the case of a wholesale allopathic medicine shop, one must employ either a pharmacist or a qualified person who has experience in selling modern medicines. This experience should be a minimum of four years in the case of 10th standard or secondary school class passed candidates, and more than one year for graduates and higher qualified candidates. The study recorded a single case in Nagaland where retail pharmacies selling only veterinary medicine

and drugs were given a license without a mandatory pharmacist for dispensing. A drug controller in Nagaland has, to date, issued seven retail drug licenses (without proof of employment of a mandatory pharmacist) to private veterinarians for the exclusive dispensing of veterinary medicine and vaccines. It is to be noted that this is a special case and, as explained by the drug controller interviewed as a part of the study, it was done because of the non-availability of a trained veterinary pharmacist. In India, a retail pharmacy can sell both human and veterinary drugs, but it is necessary to display the products on different shelves. The fact that the distribution channels for human and veterinary drugs are the same in India is beneficial in the context of rural distribution. Retail human pharmacists in remote areas interviewed indicated that they keep demand-based veterinary medicines as well, in order to meet the need of local farmers.

There are sets of rules pertaining to the design of a retail pharmacy and these are similar in all states. The enforcement of the rules, however, varies from State to State. One needs to submit a sketch plan of the premises, which must be brick-built with an RCC-roofed room (a minimum of 180 square feet in area with a height of eight feet). The pharmacy should be by the side of a wide road, with a single entrance, and should not be connected to the residential portion of the main building (if any).

The drug controllers interviewed opined that since veterinarians are required to supervise all actions of recognized para-vets, the veterinarian in question would be liable for investigation in a case of any complaint of misuse of drugs against any such para-vets. A few of the drug controllers interviewed said they were aware of instances of animal health companies supplying drugs directly to para-vets and community animal health workers, and have been planning to consult with the Veterinary Department to prevent this. Private veterinary hospitals/clinics run by a registered practitioner or a group of registered practitioners must obtain a licence under section 18 of the Drug and Cosmetics Act for the sale or storage of drugs. However, drugs stored in emergency/casualty/duty rooms attached to private hospitals are exempt from the provision of the Act relating to obtaining of a licence.

As per a notification dated 17 March 2012 (Notification number 12 of 2012), services by a veterinary clinic in relation to the healthcare of animals or birds are exempt from paying service tax in India.

An NGO/company distributing veterinary medicines and/or vaccines can do so without a drug license if they are meant for the benefit of farmers and the product is distributed free of charge. However, a prescription from a veterinarian is mandatory for dispensing. Since vaccination (more particularly of scheduled disease) is a public function, the NGO/private company must ensure that the administration of vaccines is carried out under the supervision of the State veterinary department. The doorstep drug dispensing (when it includes selling the product) by private para-vets or CAHWs is illegal. A retail drug license is required for dispensing from a stationary pharmacy only.

Some of the State drug controllers interviewed were of the opinion that, subject to proper justification by the State veterinary department regarding the need for doorstep veterinary drug dispensing, private para-vet/CAHWs should be allowed to dispense drugs and vaccines at the doorstep of farmers. However, an invoice in the name of the individual owner farmer must be raised through a licenced (stationary) retail pharmacy only. Strict interpretation of the law, as indicated by few drug controllers, means that a registered veterinarian must write separate prescriptions for the concerned animal(s) of each targeted farmer in a village. The para-vet/CAHW must carry the individual prescriptions of the veterinarian and invoices issued by the pharmacy whilst paying a visit to the residences of targeted farmers in that village for dispensing/administration. In this context, the farmer is paying the price of the product and, as such, an invoice is his/her consumer right.

The majority of drug controllers, when asked about herd-level prescription, expressed their ignorance and indicated that a prescription is normally meant for one single patient or animal. According to a few of the drug controllers, a prescription meant for a herd of animals must specify the detail of the herd;

e.g., the name of the farm or owner of the herd, the number of animals (ID numbers if available), the dose rate per animal, the procedure and length of administration (period from the date of prescription), etc. The farmer/para-vet administering the prescribed drugs/vaccines to a herd of animals in a farm must maintain proper records, which should be countersigned by a visiting registered veterinarian. In this context, a farmer can stock a reasonable quantity of drugs/vaccines within his/her farm premises, provided it is as per the requirement specified in the prescription and detailed accounts of the use of such drugs/vaccines are kept appropriately for inspection by drug inspectors. It is, however, advisable to obtain a license for storing large quantities of drugs, vaccines and diagnostics on farm premises. It should be noted that the use of the banned drug Oxytocin³⁴ in dairying is rampant in some parts of India. The interpretation recorded in this context appears highly impractical and larger consultation is needed. The possible modification of the provision of mobile vehicle licenses mentioned above is important in this regard.

An NGO/institutions can purchase drugs/vaccines in bulk from a retail pharmacy for free distribution against a prescription issued by any registered veterinarian. A proper record of such distribution is suggested. If the drugs, vaccines or diagnostics are meant for sale, a retail drug licence in the name of the concerned NGO is mandatory. NGOs need to apply for a retail drug licence to purchase drugs/vaccines in bulk from a wholesaler, even if they are for free distribution. NGOs can also enter into formal agreements with manufacturers for the direct supply of medicine and vaccines and diagnostics for use within its hospital or project areas. However, dispensing (whether free or paid) must be through a pharmacist and prescriptions must be issued by a veterinarian (see the licence exemption for drugs used or stored in emergency/casualty/duty rooms attached to private hospitals mentioned above).

³⁴ India banned the schedule H drug, Oxytocin, under Prevention of Cruelty to Animals Act and section 12 of Food and Drug Adulteration Prevention Act, 1960

A registered veterinarian can purchase drugs/vaccines in bulk from a wholesaler or a company for use in his own practice. However, as mentioned in Schedule 'K' under Rule 123 of the Drugs and Cosmetics Act, the veterinarian must dispense these to his own patients and should not keep the drugs in an open shop or sell them over the counter. The schedule also explains that the veterinarian must purchase the drugs/vaccines from a licenced dealer or manufacturer, and records of such purchases showing the names and quantities of the drugs, together with their batch numbers and names and addresses of the manufacturers, must be maintained. Such records should be open to inspection by an inspector appointed under the Act, who may, if necessary, make enquiries about the purchase of the drugs and may also take samples for testing. Whilst a few State drug controllers interviewed indicated that a veterinarian cannot issue receipts for the sale of drugs to his own patients, the majority indicated that veterinarians can issue receipts, provided the receipts stated his name and registration number. The schedule K which relates to exemption given to the practitioner is silent on this matter. However, since the Act permits dispensing to a veterinarian's own patients, there should not be any problem for a veterinarian to issue receipts for the sale of drugs to the owner of his patients.

The country does not have a veterinary medicine mobility Act, neither is there a clause in the Drugs and Cosmetics Act 1940 that allows a private veterinarian to carry controlled substances or drug/vaccines/diagnostics outside the clinic. In India, a large number of veterinary practitioners/para-vets/CAHWs carry drugs and vaccines whilst visiting farmers, particularly those in remote locations. They administer these drugs/vaccines and their cost is often included in the service charge or professional fee. In most of the cases, a less informed farmer does not get any prescription/invoice for medicines used. Small farmers in rural settings are neither motivated to record details of medications given to their animals nor are they made aware of their right of receiving prescriptions or invoices. Para-vets and CAHWs who are closer to rural farmers than the veterinarians, however, cannot issue a prescription legally.

Muti-dose, injectable, long-acting antibiotic vials are very common amongst some practitioners (including

para-vets/CAHWs), who use these vials to administer antibiotics to animals (often for discontinuous curative treatment) in different settings without following proper protocol and/or aseptic procedures. There are illegal practices in India whereby a para-vet or CAHW gets access to all kinds of drugs/vaccines directly from company sales professionals at a discounted price or even on credit (based on relationship). Invoices for such drugs and vaccines for record keeping are raised in the name of any complicit retail pharmacy.

A general interpretation recorded during the study is that point-of-care diagnostics in animals can be distributed or used without a drug license if the diagnostic tests do not include the administration of chemicals to the intended animals. The separate regulatory provision on medical devices as proposed under the Drug and Cosmetics (Amendment) Bill, 2013, if notified as an Act, may introduce additional rules on the registration of medical devices for use with animals. It is suggested that a marketing organization or NGO should inform the State drug controller regarding the introduction of any new drug/vaccine or point-of-care diagnostics approved by the Government of India.

Only drug inspectors of the State drug control authority are authorized to inspect facilities storing or dispensing veterinary medicines and vaccines. A veterinary department, if it so wishes, can approach the State drug controller for an inspection. This discussion on the Drug Control Act indicates that the State department of veterinary and animal husbandry has no say as to who can sell veterinary drugs and vaccines, nor can they inspect premises selling veterinary products. Veterinary staff at quarantine check posts (QCPs) cannot confiscate suspected or substandard veterinary drugs or vaccines. There are no instances of inter-departmental consultation within the study states to ensure coordination between the State drug controller under the Health Department and the State Veterinary and Animal Husbandry Department. Drug controllers interviewed said that, considering the spirit and organization structure proposed in the Drug Act, the responsibility of ensuring the quality of veterinary medicines and vaccines being used within a State remains with the State drug controller.

Tables 1 and 2 summarize the legal framework in India in the context of non-State actors, both individual and institutional. The framework is the same for all the six states covered by the study.

Table one: LEGAL FRAMEWORK IN INDIA FOR NON-STATE ACTORS (INDIVIDUALS)

Non-State Actors (Individuals)	Prescribing	Administration	Stocking	Dispensing	Distribution
Private veterinarian (registered under National/State council)	Yes	Yes	Yes (for use in own patients, with mandatory record keeping)	Yes (to own patients only, with mandatory record keeping)	Yes (with wholesale drug license, issued against an employee or partner pharmacist or an experienced person in drug handling)
Private para-vet (trained for long term (more than 1 year) under State department or recognized institute)	No	Yes (all kinds of administration of drugs and vaccines only under prescription, supervision by veterinarian)	Yes (with retail or wholesale drug license, issued against an employee or partner pharmacist)	Yes (with retail drug license, issued against an employee or partner pharmacist. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee or partner pharmacist or experienced person in drug handling)
CAHW (trained for short term under NGO projects)	No	No (as training is not formally recognized by State)	Yes (with retail or wholesale drug license, issued against an employee or partner pharmacist)	Yes (with retail or wholesale drug license, issued against an employee or partner pharmacist. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee or partner pharmacist or experienced person in drug handling)
Leader farmer (Informally trained by NGOs)	No	No (as training is not formally recognized by State)	Yes (with proper record keeping, prescription from veterinarian mandatory)	Yes (with retail drug license, issued against an employee or partner pharmacist. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee or partner pharmacist or experienced person in drug handling)

NB: stocking/dispensing and distribution should be in or from given location only. Mobile license is available for wholesale distributors to deliver product to stationary rural pharmacies

Table two: LEGAL FRAMEWORK IN INDIA FOR NON-STATE ACTORS (organizations)

Non-State Actors (Organizations)	Prescribing	Administration	Stocking	Dispensing	Distribution
Agri-clinic/ Registered veterinary clinic (Managed under the supervision of single or group of veterinarians. May or may not be promoted under government scheme)	Yes (must be signed by veterinarian owner/partner or employee)	Yes (through persons such as long-term trained para-vets)	Yes (with retail/wholesale drug license, issued against an employee or partner pharmacist)	Yes (with retail drug license issued, against an employee or partner pharmacist Prescription mandatory)	Yes (with wholesale drug license, issued against an employee or partner pharmacist)
NGOs	Yes (must be signed by a veterinarian member or employee)	Yes (Through persons such as veterinarians or long-term trained para-vets)	Yes (with retail/wholesale drug license, issued against an employee or partner pharmacist)	Yes (with retail drug license, issued against an employee or partner pharmacist. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee or partner pharmacist)
Self-help group/farmers' organization / cooperatives.	Yes (must be signed by visiting or employed veterinarian)	Yes (through persons such as veterinarian or long-term trained para-vets)	Yes (with proper record keeping. Prescription from veterinarian mandatory)	Yes (with retail drug license, issued against an employee or partner or member pharmacist. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee or partner or member pharmacist)
Input traders	Yes (must be signed by veterinarian owner or employee)	Yes (through persons such as veterinarian or long-term trained para-vets)	Yes (with retail/wholesale drug license, issued against an employee or partner pharmacist)	Yes (with retail drug license, issued against an employee or partner or member pharmacist. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee or partner pharmacist or experienced person in drug handling)

Veterinary Service delivery to the poor

Jeevika's Way

Jeevika (Bihar Rural Livelihoods Promotion Society) is a Government of Bihar-promoted autonomous non-profit entity. As far as livestock sector projects are concerned, *Jeevika* is currently distributing low-input birds³⁵ to rural poor in eight select districts of Bihar. One family receives a maximum of 150 birds in six batches of 25 each. To date, there are 64 mother units³⁶, with six community resource persons (CRPs) working per mother unit. Similarly, the organization is also promoting dairy producer groups and there are around 300 CRPs for dairy.

The organization has developed detailed guidelines for engagement with CRPs. Currently, female CRPs account for more than 80% of total CRPs. CRPs are selected from within *Jeevika*-promoted self-help groups (SHGs) or village organizations (VOs) and they are generally members of an experienced SHG/VO. The cluster-level federation (CLF), which is an apex organization of SHGs at block level and VOs, takes an active part in the selection process of community cadres. *Jeevika* also nurtures a group of external CRPs, who are not from the immediate village organization but render services to the VO working jointly with CRPs selected from amongst VO members (internal CRPs). This is particularly to ensure community cross-learning for social mobilization and sustainability. New CRPs internal to any producer group are encouraged to work as apprentices under the external CRP for a fixed period. VOs/SHGs who are capable of supplying external CRPs receive an institutional fee from the payments made to external CRPs.

For an initial period, resource persons are, on average, paid INR 200³⁷ per day (inclusive of food and exclusive of actual travel costs) by *Jeevika* through the village

organization, with the condition that later on the VO will recover service charges and pay the persons. The resource persons are made accountable to the VO and payments are routed or rendered by the VO only. They can also ask for replacement CRPs based on performance. Though there is no independent study on the earnings of a CRP who is not supported by the program, in some places the organization has recorded earning up to INR 5000 per month. The fact that they are made accountable to the VO is likely to ensure service quality.

Jeevika has engaged veterinarians at the project's headquarters to supervise CRP operations linked to veterinary services and product delivery. The project team at *Jeevika* is currently looking for appropriate ways to impart training to selected CRPs who are willing to work as providers of veterinary services. The absence of an accredited training program for CRPs with community animal health responsibility, and the inability on the part of the program to ensure the availability of community pharmacy licences to CRPs, are restricting their engagement in livestock health product delivery (other than those distributed under the supervision of the State veterinary department) to remote areas. The program is also actively reviewing its ground monitoring framework for CRPs with animal health responsibilities, under the supervision of project-employed veterinarians. The number of veterinarians engaged in the project on a full-time basis is, however, negligible. These constraints have the potential to prevent scaling up of the program in the context of livestock-related interventions.

For more information: <http://brlp.in/>

³⁵ A low-input bird is a dual-purpose poultry breed producing both meat and eggs, that can be raised on a diet of kitchen residues and agricultural waste

³⁶ A mother unit rears chicks for 28 days

³⁷ = USD 3.5



6.2 Bangladesh

Administrative and institutional framework

Public veterinary services are generally available up to the sub-district level only. The Upazila (sub-district) veterinary hospitals (UVH) function as centres of public activity at grass root level. The discussions with officials indicated that the Government intends to focus more on developing community service infrastructure jointly with private sector participation, which then can be federated at union (village) level for further linkage to sub-district veterinary hospitals.

The Bangladesh Veterinary Council is the statutory body that registers and regulates qualified veterinarians. The Council is currently setting up standards for veterinary education and intends to conduct common entrance examination for filling seats of veterinary institutes within Bangladesh. It should be noted that the Council mandate pertains to registered veterinarians only and, as such, there is no scope for the Bangladesh Veterinary Council to regulate the activities of Government para-veterinarians and community animal health workers.

There are eight colleges in Bangladesh that impart graduate veterinary education. These include private establishments. On average, about 1,200 veterinarians graduate per annum. As far as facilitating last-mile service delivery is concerned, some of the colleges impart designed training courses at the request of NGOs, especially in the areas of artificial insemination, first aid and disaster management. Discussion indicated that training participation certificates are normally issued by the colleges to NGO-nominated persons. Not much

information was available on any structured collaborative initiative between veterinary colleges and NGOs active in veterinary service and product delivery. The Faculty of Veterinary Science at Mymensingh is also engaged in manufacturing a few vaccines that are distributed through the Department of Livestock Services. The diagnostic laboratories of these institutions, which are mostly meant for research activities, do provide services to farmers on request.

The State department has four training institutes for training veterinary auxiliary staff. The selected auxiliary staff are first appointed based on their school-level qualifications and then sent to State-funded institutes for relevant one-year training on animal health and production technologies. The scope for the retraining of auxiliary staff is limited, as the department has inadequate provision for this. The discussion conducted with some of the interviewees indicated that, since the training follows formal employment as auxiliary staff, participants, as well as the management of the departmental training institutes, normally do not take the evaluation system seriously and it is only undertaken nominally.

As of now, no institution in Bangladesh has been mandated to conduct the accreditation of community animal health worker (CAHW) training provided by various NGOs. However, in one case, self-regulation was envisaged in a model promoted by the Helvetas Swiss Intercooperation (SDC) in Bangladesh, through its Samridhhi Project. This project promotes the setting up of service providers' associations (SPAs) consisting of CAHWs as members who act as self-regulators.

There are 198,114 farmers' organizations (FOs) in Bangladesh, but only 2% of these are federated at any level. Similarly, there are fairly high numbers of NGOs and organizations who are involved in the formation of farmers' organizations in Bangladesh. FOs can be a good medium for the delivery of veterinary services and products in rural areas. FAO-Bangladesh has recently launched (5 March 2014) a detailed report titled "*Farmers' Organizations in Bangladesh: A Mapping and Capacity Assessment*". A USAID-funded Agro-Inputs Program in Bangladesh has already established an agro-input retail network structure. This network intends to deliver training, improved inputs and related services to an expanding network of at least 3,000 agro-input retailers, serving over one million smallholders.

The Animal Health Care Companies' Association of Bangladesh is the top animal health trade body registered with the Ministry of Commerce. The organization provides a policy advocacy platform to companies involved in the local manufacturing and importing of veterinary medicines, vaccines, diagnostics and nutritional products and services. The distribution channel for veterinary health care products in Bangladesh (Government as well as private) ensures that products are also made available in rural areas. However, infrastructure (e.g., a cold storage chain for vaccine), access or doorstep delivery of these products to poor smallholders, including backyard poultry, is grossly inadequate. Amongst the private sector institutions, some of the private input trading and poultry sector companies are generally active in the training and engagement of vaccinators. However, their reach is mostly limited to commercial poultry farms only.

Following a standard application from any vaccine importing firm, the drug control authority constitutes an approval committee with experts from the Department of Livestock Services. The importation of vaccines is allowed only if that committee, with technical advice from the Central Disease Diagnostic Laboratory, is convinced on the technical parameters

vis-à-vis isolated strains within Bangladesh for the disease in question. Bangladesh allows the import of any vaccines only if they are already used in any of the twenty three listed 'advanced' countries. A Free Sale Certificate (FSC)³⁸ from the Government authority of any of these countries is mandatory. Similarly, a joint committee decides on the application for the import or registration of new drugs and diagnostics. There are standard procedures for the assessment of new drugs with active molecules that have not been introduced to Bangladesh before. The country also implements a policy on price control for imported products. The slow introduction and uptake of new vaccines is a concern in Bangladesh (Uddin *et al.* 2013)³⁹. However, interviews conducted with competent authorities indicated that appropriate systems are in place to address such concerns.

The Directorate-General of Drug Administration (DDA) of Bangladesh has recently started a veterinary wing and they are planning to further strengthen this in years to come. The DDA issues licenses for the wholesale and retail trade of drugs, vaccines and diagnostics. However, in practice, negligible numbers of veterinary pharmacies apply for drug licenses. The DDA is aware of this and may plan to initiate action in the near future.

The Bangladesh Pharmaceutical Society and the Bangladesh Chemists' and Druggists' Society jointly conduct a three-month special certificate course for 10th board exam or secondary school pass candidates. Candidates passing this course are categorized as 'C' grade pharmacists by the Pharmacy Council of Bangladesh (PCB) and they are allowed to work in community pharmacies or run their own pharmacies. The other two higher categories of pharmacists include one with a long-term diploma (Category B) and one with a degree (category A). Not much information could be obtained from the PCB on community animal health workers who have attended a certificate course and registered under the PCB to legally work as veterinary pharmacists or to set up a veterinary pharmaceutical business.

³⁸ A document required in certain countries or for certain commodities (such as pharmaceuticals), certifying that the specified imported goods are normally and freely sold in the exporting country's open markets and are approved for export.

³⁹ Jasim Uddin *et al.* Introduction of New Vaccines: Decision-making Process in Bangladesh, *J Health Popul Nutr.* Jun 2013; 31(2): 211–217.

Policy framework

The draft National Livestock Extension Policy, 2013 defines the scope for a public–private partnership project for the enhanced availability of vaccines. The Perspective Plan of Bangladesh 2010–2021 also mentions promoting the extension and supply of veterinary services, including vaccinations. The Country Investment Plan, 2011 indicates that public support should be given through capacity strengthening of private input suppliers in the areas of production, handling and quality assurance. The National Livestock Policy, 2007 envisages the development of community-based veterinary service structures through special projects. It also provides for soft loans to accelerate the development of private veterinary services. The general policy framework is conducive to the enhanced role of the private sector in veterinary product and service delivery. The policy aptly recognizes the role of the private sector (animal health worker, vaccinator, etc.) in delivering extension services, including inputs (vaccines, medicines, feed, AI materials), to farms and farmers. These reports however, are silent in spelling out a clear roadmap to relieve the Government from services through a phased transfer of responsibilities to private players, thus restricting its role as regulator.

The Government is yet to institutionalize CAHW training. As of now, there is no structured coordination and monitoring mechanism for private veterinary service providers. However, veterinary officials at sub-district level cooperate with various NGOs to train and guide CAHWs. But there is a lack of subsequent ‘hand-holding’ and technical monitoring of these field-level functionaries. The Government of Bangladesh also recently established the National Skill Development Council. The National Skill Development Policy 2012 highlighted the need to rationalize the disparate efforts in TVET and skills training by putting it under a single

regulatory framework to provide a unified and coherent direction⁴⁰. This indicates that the Council may take the initiative for the standardized training and accreditation of para-veterinary professionals in the near future. Public institutions such as the Ministry of Youth and Sports and the Bangladesh Open University provide short-term training and certificate courses to generate self-employment through livestock and poultry farming. However, there appears to be inadequate institutional infrastructure to impart hands-on training. The limited sharing of information and the scope of consultation may have triggered an environment of mistrust between private and public service providers.

A case study report⁴¹ published in 2003 (Nasrin & Hafizur 2003), supported by the Global Initiative for Livestock Services and the Poor, indicated that out of the total subsidy budget of the DLS during 1998 for animal health services, the supply of vaccines and medicines accounted for 69%. The DLS purchases drugs for distribution to farmers free of charge. The National Livestock Policy 2007 indicated that the use of subsidies in vaccine production in its present form is a possible deterrent to private investors⁴². No recent data on subsidies could be obtained. Subsidised inputs from the Government hinder full privatisation and adversely affect the sustainability of poverty-focused livestock services by private players. Moreover, subsidized or free drugs in an unregulated environment generally lead to irrational drug use, in its turn leading to residue-contaminated milk and other products unsafe for consumers. The Drug Act of Bangladesh gives protection to the local manufacturers by restricting the import of pharmaceutical products that are manufactured in the country⁴³. However, the country permits the import of veterinary biologics and diagnostics, subject to approval by a competent authority.

⁴⁰ Reproduced from section 2.8, page 10 of the final draft of 2011

⁴¹ Jahan Nasrin & Rahman Hafizur (2003), Livestock Services and the poor in Bangladesh – A case study. Danish Agricultural Advisory Centre.

⁴² Section 4.3, page 10, National Livestock Policy, 2007

⁴³ Article posted by UKTI Digital, for UK Trade & Investment dated 3rd January 2014: <http://opentoexport.com/article/biotechnology-and-pharmaceuticals-sector-in-bangladesh/>

Between 2005 and 2011, the net Official Development Assistance (ODA) to Bangladesh averaged 2% of gross national income (GNI). In 2011, as high as 21% of Bangladesh central government expenses came from ODA⁴⁴. The country, however, expects that any international development organization should align its plans and programs with the country's development and poverty reduction framework⁴⁵. The NGO Affairs Bureau of the Government of Bangladesh provides a one-stop service to the NGOs operating with foreign assistance and registered under the Foreign Donations (Voluntary Activities) Regulation Ordinance, 1978. The Bureau has published sets of guidelines for foreign or externally-funded NGOs, besides the country poverty map and priority locations for externally-funded interventions.

Interaction with international NGOs active in the field of veterinary services indicated a favourable national political environment for activities aimed at institution building involving farmers. Since 1992, seven internationally-funded projects⁴⁶ in the livestock sector have promoted different type of farmers' organizations in Bangladesh. Skilled handling of local political dynamics is, however, a prerequisite.

Regulatory (Legal) framework

Veterinary service and product delivery in Bangladesh is regulated primarily through three Acts: the Bangladesh Veterinary Practitioners Ordinance 1982 (likely to be replaced by the Veterinary Council Act 2013); the Diseases of Animals Act 2005; and the Drugs (Control) Ordinance 2006.

The Veterinary Council Act⁴⁷ provides that "no person other than a registered veterinary practitioner shall practice veterinary medicine and surgery". The practice in this context involves the diagnosis of diseases and preventive and curative care (including surgical intervention). The Act, however, further states that the following activities can be performed by persons other than registered veterinarians:

- a) Rendering to any animal first aid for the purpose of saving life or relieving pain
- b) Destruction of an animal by a painless method
- c) Castration of any animal or caponising of any poultry or bird
- d) Docking the tails of cattle or dogs before their eyes are open
- e) Amputation of the claws of a dog before its eyes are open
- f) Inoculation or vaccination of any animal, poultry or bird.

The Veterinary Council Act is silent on the recognition or supervision of para-vets. The Act permits only the above activities on animals to be performed by persons other than registered veterinarians. Since the Act is silent on any mandatory supervision of para-vets by registered veterinarians, it can be inferred that para-vets are neither recognized nor regulated by the Veterinary Council Act.

The artificial insemination service is not included in the above list and, as such, it is only registered veterinarians who can carry out artificial insemination. In practice, however, Government departments, veterinary colleges and NGOs provide short-term training to para-vets for artificial insemination. This inconsistency of policy and practice suggests that the veterinary profession is still struggling to find a fine balance in work stratification between the professional veterinarians and technicians.

According to the Veterinary Council Act and the Diseases of Animals Act, only registered veterinarians can issue health and vaccination certificates for animals. Foreign veterinarians working in Bangladesh must register themselves with the Bangladesh Veterinary Council. The proposed Professional Rules, 2009 have increased the current fee of 1000tk to 10000tk for such registration. The Professional Rules, 2009 are also proposing fixed veterinarians' professional fees for various activities carried out either at their premises or at the doorsteps of owners.

⁴⁴ Source: oecd.org

⁴⁵ Call for achieving vision – 2021. NGO Affairs Bureau, Government of Bangladesh

⁴⁶ Funded by ADB, DANIDA, IFAD, IDA and GAFSP. Source: Table A5.23, Farmers' organizations in Bangladesh: A Mapping and Capacity Assessment, FAO (2014).

⁴⁷ Section 20(1) and Section 21(1) in the Veterinary Practitioners Ordinance



The Diseases of Animal Act 2005 empowers the State to take measures for the control of scheduled diseases. These measures include compulsory reporting by owners, examination of suspected animals or farm premises, segregation of animals, declaration of infected areas, animal and animal product movement control, compulsory vaccination of scheduled diseases, disinfection of premises, control of operation of livestock markets, post-mortems and destruction and disposal of animals. Any organization engaged in private veterinary service delivery is, therefore, legally required to inform the State authority of any outbreak of scheduled diseases and cooperate with the State in their control.

As interpreted by Government officials interviewed as part of the study, vaccination against scheduled diseases and any other preventive care for such diseases are considered public functions. Private/NGO sector service providers undertaking vaccination against scheduled diseases are considered to be playing only a complimentary role. It is, therefore, mandatory for a private service provider or other non-Governmental actors to collaborate with officials of the State at district/sub-district level whilst implementing vaccination programs against scheduled notifiable diseases.

The Diseases of Animal Act 2005 and its rules have not clearly defined a protocol for sharing information between farmers and veterinarians (public or private service provider). There is no provision for the expansion of the animal health network, such as the engagement of CAHWs, necessarily ensuring someone to act as an interface between the community and authority. Since the majority of farms are very small and maintain few records, the validation of vaccination services, the collating of the data on vaccination and any interpretation of the impact of vaccination on the disease control

program are not possible. Investment in implementing a system of premises registration of farm households as a core infrastructure requirement to improve animal health, productivity and food safety is not forthcoming.

The Drugs (Control) Ordinance 2006 does not differentiate between human and veterinary drugs and covers both. There are three distinct categories of pharmacist in Bangladesh. A Category 'A' pharmacist is one who has attended a formal university degree program or is a graduate in Pharmacy. A Category 'B' pharmacist is a diploma holder (not graduate), and a Category 'C' pharmacist is one who has only attended a certificate course of three months duration. Anyone stocking, exhibiting, distributing and selling drugs needs to obtain a drug license with a minimum 'C' category pharmacist as owner or employee. There are no specific guidelines on the construction of a veterinary pharmacy facility. A drug license is not required for public hospitals or Government-managed distribution or dispensing. The Drugs (Control) Ordinance recognizes a registered veterinarian as a practitioner. Discussion with key informants indicated that most of the retail hubs of veterinary drugs and vaccines in Bangladesh do not have a drug license.

The information collected during the interviews conducted in Bangladesh was inconsistent to conclusively interpret provisions in the contexts of the distribution of drugs, vaccines and diagnostics by NGOs for public good, doorstep drug dispensing, herd-level prescriptions, dispensing by veterinarians, etc. Since the provisions of the Drug Control acts in Bangladesh and India are largely similar, one can assume the interpretation of these provisions is the same in Bangladesh as it is in India.

Tables 3 and 4 summarize the legal framework in Bangladesh in the context of non-State actors for individuals and organisations respectively.

Table three: LEGAL FRAMEWORK IN BANGLADESH FOR NON-STATE ACTORS (INDIVIDUALS)

Non-State Actors (Individuals)	Prescribing	Administration	Stocking	Dispensing	Distribution
Private veterinarian (registered under National/State council)	Yes	Yes	Yes (for use in own patients, with mandatory record keeping)	Yes (to own patients only, with mandatory record keeping)	Yes (with wholesale drug license, issued against an employee or partner pharmacist)
Private para-vet (trained for long term (more than 1 year) under State-recognized institute)	No	Yes (all kinds of administration of drugs and vaccines)	Yes (with retail or wholesale drug license, issued against an employee or partner pharmacist)	Yes (with retail drug license, issued against an employee or partner pharmacist. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee or partner pharmacist)
CAHW (trained for short term under NGO projects)	No	No (as training is not formally recognized by State)	Yes (with retail or wholesale drug license, issued against an employee or partner pharmacist)	Yes (with retail or wholesale drug license, issued against an employee or partner pharmacist. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee or partner pharmacist)
Leader farmer (Informally trained by NGOs)	No	No (as training is not formally recognized by State)	Yes (with proper record keeping. Prescription from veterinarian mandatory)	Yes (with retail drug license, issued against an employee or partner pharmacist)	Yes (with wholesale drug license, issued against an employee or partner pharmacist)

NB: stocking/dispensing and distribution should be in/from given location only.

Table four: LEGAL FRAMEWORK IN BANGLADESH FOR NON-STATE ACTORS (ORGANISATIONS)

Non-State Actors (Organizations)	Prescribing	Administration	Stocking	Dispensing	Distribution
Veterinary Clinic (managed under the supervision of single or group of veterinarians)	Yes (must be signed by veterinarian owner/partner or employee)	Yes (through persons such as long-term trained para-vets)	Yes (with retail/wholesale drug license, issued against an employee or partner pharmacist)	Yes (with retail drug license issued, against an employee or partner pharmacist. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee or partner pharmacist)
NGOs	Yes (must be signed by a veterinarian member or employee)	Yes (Through persons such as veterinarians or long-term trained para-vets)	Yes (with retail/wholesale drug license, issued against an employee or partner pharmacist)	Yes (with retail drug license, issued against an employee or partner or member pharmacist. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee or partner pharmacist)
Self-help group/farmers' organization/ cooperatives.	Yes (must be signed by visiting or employed veterinarian)	Yes (through persons such as veterinarian or long-term trained para-vets)	Yes (with proper record keeping. Prescription from veterinarian mandatory)	Yes (with retail drug license, issued against an employee or partner or member pharmacist. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee or partner or member pharmacist)
Input traders	Yes (must be signed by veterinarian owner or employee)	Yes (through persons such as veterinarian or long-term trained para-vets)	Yes (with retail/wholesale drug license, issued against an employee or partner pharmacist)	Yes (with retail drug license, issued against an employee or partner or member pharmacist. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee or partner pharmacist)

Samriddhi experience on local service providers (LSPs) in the field of veterinary services

Project *Samriddhi* (meaning “prosperity” in Bengali), supported by the Swiss Agency for Development and Cooperation (SDC) and implemented by HELVETAS Swiss Intercooperation Bangladesh, aims to contribute to the sustainable wellbeing and resilience of poor and extreme poor households in selected areas of the northwestern and northeastern parts of Bangladesh.

The project currently reaches out to 400,000 livestock keepers through 63 (among them 21 Government-registered) service providers’ associations (SPAs) at the sub-district level. A total of 900 community animal health workers (CAHWs), who act as local service providers (LSPs⁴⁸) are members of these associations. In 2004, the project signed a Memorandum of Understanding (MoU) with the Department of Livestock Services (DLS) in Bangladesh for three years, to jointly organize and train LSPs in the field of veterinary service delivery. During this period, the project supported the formation of SPAs with trained LSPs as members. Capacity-building assistance was provided to SPAs so that they can engage effectively with officials at the DLS and other organizations to conduct training for future LSPs.

From 2007, the project gradually reduced capacity-building assistance to SPAs, as they took over the responsibility of organizing the training independently, at community level with provision for cost recovery. Currently, the trained LSPs under the overall monitoring of SPAs actively provide animal health support at community level, working as a gap filler in veterinary extension and primary disease control programs undertaken by the Government. Whilst SPAs earn through numerous transactions (including agriculture and other allied activities) with partner input and output market actors, LSPs financially sustain themselves mostly from doorstep service charges and the sale of medicines, feed, etc.

They earn on average BDT 8,000–10,000 per month⁴⁹. The project, however, reported that female LSPs are earning less. The prices of services and animal health products are mostly market driven; however, the SPAs subsidises these for poor and extreme poor livestock keepers. The project encourages SPAs and LSPs to ensure availability of drugs, vaccines, feed, etc. They are also encouraged to apply for a mandatory drug license to dispense privately procured medicines. However, only 18 LSPs have received a ‘C’ category pharmacy licence and a few are in the process of obtaining such a license.

Although SPAs have been self-monitoring the services of its member LSPs in general, there is no standard curriculum or agreed protocol for continuous training and information sharing with the DLS in relation to animal health events attended by LSPs. Veterinarian supervision is minimal, considering the high cost associated with the services of veterinarians and also the smaller numbers of veterinarians in rural areas. The LSPs coordinate mostly with Government veterinarians on complicated cases and prescriptions thereof. The Government of Bangladesh is yet to recognize LSPs who have received short-duration training comprising ten days of compulsory foundation training and up to 15 days of flexible specialized training on animal health, organized through the DLS. This poses a question on the legal position of these service providers. The lack of accredited training courses, besides other issues such as inadequate Government-facilitated monitoring, may affect the scaling up of the largely successful model. However, to address the accreditation issue, the project undertakes advocacy initiatives, targeting Government and the private sector.

For more information:
<http://bangladesh.helvetas.org/en/>

⁴⁸ LSPs are the select people from the communities with good acceptance and leadership qualities. They have a minimum junior high school level educational qualification, and are skilled in livestock management, including primary animal health care.

⁴⁹ = USD 103–129



6.3 Nepal

Administrative and institutional framework

As Nepal is on the path to drafting a new Constitution, there are disagreements on the issues of federal states and executive powers. Whilst the radical groups have pushed for around a dozen states along ethnic lines, the mainstream political groups are for fewer districts based on geography and economic viability. It can be assumed that in the next few years, there will be considerable changes as far as the general political and administrative framework is concerned.

Nepal has a two-tiered local government system, with 75 District Development Committees (DDCs) that act as the middle tier of government between the central and lower levels. Districts are further divided into village development committees (VDCs) and municipalities. VDCs and municipalities are the lowest level of administrative and governance units, but are further divided into wards that serve as the lowest level of service delivery in the system. There have been no elected local governments since 2002,

and local government administration has been run by transitional structures with members (mostly bureaucrats) appointed by the central Government. The Local Self Governance Act, 1999 empowers DDCs and VDCs with the necessary authority to formulate and coordinate development plans within their districts. The Act envisions that local governments will facilitate NGOs in the identification, formulation, approval, operation, supervision and evaluation of the development program. It also suggests that VDCs operate (or cause to be operated) veterinary hospitals, as per need, for the prevention and control of animal diseases within the village development area⁵⁰.

In a district, the administrative framework for public veterinary service delivery includes the district office of the DLS (DLSO), livestock service centres (LSCs) and sub-centres. Each LSC serves an assigned number of VDCs. It is to be noted that the Government is planning to increase the number of LSCs by upgrading sub-centres. Within the DLS, there are voices to bring in organizational reform for efficient service delivery, more particularly strong regulatory and preventive health care functions. The Directorate of Animal Health is looking for possibilities to ensure smooth disease and animal health-related activity reporting from the districts. As of now, there is limited coordination between the central animal health directorate and district livestock offices. Poor monitoring of NGO activities pertaining to health care is an issue and one can expect regulatory guidelines (mostly on sharing of data on vaccination) for NGOs in the near future.

The chief of any district DLS office is assisted by one veterinary officer and one livestock development officer. Whilst the responsibility of the veterinary officer is related to animal health, the livestock officer looks after the production aspects. In Nepal, non-veterinarians can also become 'veterinary officers' in the Civil Service. Government para-vets, e.g. junior technicians (JTs) and junior technical assistants (JTAs), who are stationed at LSCs or sub-centres, need to provide veterinary services preferably through farmers' groups. They are required to go to the villages to advise, whenever there is a group meeting or major problems linked to large numbers of animals.

⁵⁰ Chapter 4, Section 28 a (3) Local Self Governance Act 2055 (1999)

According to officers interviewed, reporting to the DLS by registered CAHWs is not up to the mark. There is also no system in this regard. Neither can the district office of the DLS control the services of CAHWs who are not registered with it. The officers indicated that there is a need to ensure proper monitoring of CAHWs. It's a common practice for NGOs to involve DLS staff in interviewing CAHWs before employing/inducting them into service. It indicates that NGOs implementing a development project in the animal health sector should preferably employ DLS-registered CAHWs only. NGOs should also focus on ensuring proper liaison with the DLS district office, in order to develop a transparent monitoring framework of employed CAHWs.

The Department of Drug Administration is the nodal department in matters pertaining to manufacturing, drug registration and distribution. However, the DLS Animal Health Directorate is the initial contact point as far as import licences for vaccines are concerned. A sub-committee constituted by the DLS Director General recommends the importation of veterinary vaccines and biologicals. The administrative structure and arrangement for the registration and licencing of veterinary drug distribution may change, subject to acceptance of the proposed new Veterinary Drug Act. The DLS has already earmarked funds for the required infrastructure, as far as implementation of provisions of the proposed new Veterinary Drug Act is concerned. Interviews conducted during the study indicated that there is an inadequate assortment of quality veterinary drugs in Nepal. There is no systematic study to date on availability versus requirement. As reported by a few interviewees, importing veterinary drugs and biologicals to Nepal is cumbersome and there are active lobbies against importation in order to protect local companies. According to this group of interviewees, veterinary drugs and biologicals imported to Nepal have to go through a quarantine check post as a disease control measure, in addition to Customs formalities. This, however, could not be verified. Some of the top-level private institutions in the field of veterinary drug distribution include the Association of Pharmaceutical Producers of Nepal (APPON), the Nepal Veterinary Druggists' and Chemists' Association and the Nepal Veterinary Medicine Importers' Association.

As far as the administrative and institutional framework pertaining to the development of human resources (other than veterinarians) for last-mile veterinary service is concerned, the DLS Training and Extension (DLSTE) plays the role of a nodal agency

within the DLS. This institution is also responsible for central-level coordination of livestock extension functions. Another key institution in this regard is the Council for Technical Education and Vocational Training (CTEVT). This organization has a mandate to develop a scientific curriculum, to ensure the accreditation of skills, to collaborate with technical partners and to monitor the performance of institutions (both public and affiliated private), as far as the supply of quality human resource (para-veterinarians) in the veterinary and livestock sector is concerned.

There are three veterinary colleges⁵¹ which are fully supported by public funds. In addition, there are also two private colleges imparting veterinary education. The course curriculum in veterinary colleges is not uniform and, currently, the Veterinary Council is not in a position to implement inspection and recognition, mainly due to limited legislative authority. Many teaching faculties in the Veterinary College at Chitwan are also engaged in private practice and entrepreneurship, especially in the poultry sector. This innovative set-up, however, has not been able to develop a coordinated internship program for budding veterinarians with private sector players. The colleges are predominantly involved only in imparting education and are not very active in research, due to lack of funding. There is ample scope to improve the linkages between colleges and the Government line department.

Policy framework

The 20-year Agricultural Perspective Plan (APP, 1995–2014) of Nepal envisages the promotion of private farmers and business people for efficiency in the commercialisation process of a livestock production system. This is also suggested for improved veterinary services. Privatization of animal health services was first recommended during the 9th plan (1997–2001) period. Two known externally-assisted projects, viz. the Third Livestock Development Project (TLDP, funded by ADB) and the Strengthening of Veterinary Services for Livestock Disease Control (SVSLDC, funded by the EC), supported the privatization initiatives. According to APP's implementation status report published during 2006, 4,000 private CAHWs are rendering services in rural areas of Nepal. The same report also indicated that, according to FY 2004–2005 official records, there are 2,426 veterinary medicine shops established by farmers' groups under Government schemes and private business people.

⁵¹ Two under Tribhuvan University and one under Agriculture and Forestry University

Although there is no specific mention of private sector participation in veterinary service and product delivery in key policy documents, the National Agricultural Policy 2004 highlights the privatisation of agricultural extension services in the commercial areas by involving NGOs and cooperatives. It also indicates steps for Government accreditation of private agricultural laboratory services and the promotion of contract farming. The Livestock Breeding Policy 2012 envisaged the development of livestock and poultry resource centres through public-private partnership.

The DLS has adopted the policy of carrying out the livestock extension activities, following the farmers' group approach and involving the community-based organizations (CBOs) and NGOs.

It can be assumed that State policy is in favour of services by private CAHWs, as there are ongoing Government schemes that give interest-free financial support to CAHWs⁵². Although there is no specific study to assess the skill level of CAHWs working in Nepal, interviews conducted with senior functionaries of NGOs active in animal healthcare indicate that they are capable of addressing up to 50% of common animal health issues. They are the only alternative if one considers the fact that there is limited access to public services (due to difficult geographical terrain), poor availability of qualified veterinarians and constraints on public funding of services. It is to be noted that during the study, few influential stakeholders advocated the gradual replacement of private CAHWs with long-term professionally-trained para-professionals.

Nepal has witnessed the emergence of a large number of NGOs, as well as international organizations, following the restoration of democracy. Membership of the NGO Federation of Nepal stands at over 5,000. Similarly, the Association of International NGOs in Nepal (AIN) has a membership of 110 INGOs. There are concerns related to duplication of work and aid dependency and inadequate coordination with Government. Nepal's Government has recently announced a proposal to implement a new foreign aid policy that will consolidate official development

assistance through a unified Government channel, as well as impose a minimum amount from donors. This new provision will end direct funding from foreign donors to local and international aid groups. This policy change is indicative of the need for NGOs engaged in veterinary service delivery to focus on local ownership, sustainability planning and targeting of initiatives, as well as stronger coordination with Government agencies.

After decades of unrest, Nepal is currently fast moving towards political stability, the adoption of new constitutions, decentralization and community participation. There are ongoing structured debates and consultations at national level to develop a new agricultural development strategy for the next 20 years⁵³.

Regulatory (Legal) framework

The last-mile veterinary service and product delivery in Nepal comes under the regulatory framework based on several Acts: the Nepal Veterinary Council Act, 2055 B.S. (1999); the Animal Health and Livestock Services Act, 2055 B.S. (1998); and the and Drugs Act, 2035 B.S. (1978).

Key stakeholders within Nepal are currently debating actively on a new Veterinary Drugs Act. The new Act is in the final stages of development and is waiting for legal clearance and legislative approval. There is also an ongoing discussion on amendment to the existing Nepal Veterinary Council Act in order to register and regulate para-veterinarians within the country (it is possible that a new Act may completely replace the old one!). Currently, the Nepal Veterinary Council Act has no provision for the supervision of para-vets by veterinarians. Legally speaking, para-vets are not regulated. The Nepal Veterinary Association (NVA) is against the registration of para-veterinarians in the Veterinary Council and is opposing any move to give the legal right of writing prescriptions to para-veterinarians, as demanded by Nepal Para-veterinary and Livestock Association (NEVLA).

⁵² The financial support is fixed at NPR 18,000. The beneficiary needs to return the principle amount within three years without any interest.

⁵³ Ministry of Agricultural Development, Nepal

The interviews conducted during the study indicated that consensus is emerging on an arrangement whereby para-vets will be classified into three skill categories based on years of training and experience, with each of the categories having different sets of privileges/rights concerning participation in the affairs of the Council, treatment and the administration of drugs. Subject to the acceptance of the proposed Veterinary Drugs Act, the drugs are likely to be listed in different schedules based on relative safety. The para-vets will have the right to administer⁵⁴ the listed drugs based on their skill level, which will be defined accordingly. As discussion and debate is ongoing, the actual picture will emerge only after the completion of deliberations, the re-drafting of the amended provisions and the consent of Government/Parliament. It should be noted that para-professionals in this context are long-term⁵⁵ trained individuals (Government and private), accredited by the Council of Technical Education and Vocational Training (CTEVT), and do not include CAHWs, who are trained mostly by the DLS and the CTEVT but for short term⁵⁶ only. The CTEVT, which was constituted in 1989 (2045 BS) by an Act (CTEVT Act 1989) is a national autonomous apex body of Technical and Vocational Education and Training (TVET). Interviews conducted during the study indicated inadequate coordination between the DLS and the CTEVT as far as the CTEVT's CAHW accreditation program⁵⁷ is concerned. The CTEVT is currently more involved in offering long-term para-vet training, such as Junior Technical Assistant⁵⁸ and Junior Technician⁵⁹ courses, as well as a three-year post-matriculation diploma in Animal Science.

It should be noted that besides para-vets represented by the Nepal Para-veterinary and Livestock Association and CAHWs, there is another category of professionals represented by the Nepal Animal Science Association (NASA), who are an integral part of mostly Government livestock production and extension services in Nepal. The members of this association are graduate/post graduate degree holders in Animal Sciences. Since graduates in Animal Sciences are not trained to undertake the treatment of animals, they are not regulated by any law.

CAHWs who are in the frontline of doorstep service delivery in rural areas are not regulated as of now under any legal provision of the Acts mentioned above. Some CAHWs are, however, working under the overall monitoring of local NGOs who, in turn, are legally required to report their annual activities to competent authorities. The NGOs and CAHWs interacted during the visit indicated that they are maintaining good contacts with the DLS local offices, but there is no specific format or a systematic way of keeping records of CAHWs activities for sharing with DLS officials.

The DLS is conducting 35-day CAHW training on a regional basis, issuing training certificates to CAHWs and also facilitating their registration with district authorities (including the issue of ID cards). Private institutes (a few run by veterinarians) have also been mandated to conduct CAHW training. They can charge a fee to the candidates as per Government practice. In this case, the list of candidates is forwarded by the district official, who also issues certificates under his signature on successful completion of the training course. From the interviews, it was apparent that many candidates aspire to undergo CAHW training.

Registration with a DLS local office may indicate that CAHWs are eligible to carry out public functions such as mass vaccinations. However, there is no notification as to what CAHWs can do as far as rendering services to farmers is concerned. CAHWs interacted are also dispensing medicines at the doorsteps of farmers.

The Drugs Act, 2035 B.S (1978) defines a registered doctor as one registered pursuant to the Nepal Medical Council Act, 2020 (1964) only. However, the definition of drugs included in the Act also covers veterinary formulations.

The Department of Drug Administration (DDA) under the Ministry of Health and Population is not in favour of the move by the DLS to enact a separate Act for Veterinary Drug Control. According to officials visited, what is needed is an amendment to include veterinarians as registered practitioners, thereby increasing manpower with suitable veterinary qualification at the DDA. The DDA has already created one veterinarian post to technically support its veterinary drug-related operations.

⁵⁴ The para-vet association is also arguing for the right of writing prescriptions under an agreed arrangement of classification of their cadre based on training and experience.

⁵⁵ Minimum 15 months.

⁵⁶ 35 days in the case of DLS-accredited training and 390 hours in the case of CTEVT-accredited training.

⁵⁷ It's a 390-hour curriculum.

⁵⁸ Also called as JTA, the course duration for a post-matriculation candidate is 15 months and includes on-job training.

⁵⁹ Also called JT, the course duration is 1 year and one need to complete JTA course to apply for it.

Unlike in other countries covered under the study, the Department of Drug Administration in Nepal is granting wholesale and retail drug licenses to DLS-trained CAHWs. Permission to grant DLS-trained CAHWs this drug license (subject to application by any CAHW) is based on a directive of a top advisory body of the DDA, following a request from the DLS a long time ago. It was also agreed between the DDA and DLS authorities that CAHWs opting for a drug license must attend another 30-day orientation program on drug dispensing and management of a store, etc. Such programs will be organized jointly by the DDA and DLS periodically. It is to be noted that degree and diploma pharmacy professionals are also allowed to apply for veterinary drug licenses⁶⁰.

In Nepal, the pharmacies (in urban and rural areas) selling veterinary drugs and vaccines are commonly called 'agro-vets', as the majority of such pharmacies also stock agro-chemicals and pesticides under a separate license granted by the Agriculture Department. It should be noted that the license issued by the DDA is for a veterinary pharmacy only and is renewable every year. It clearly indicates permissible investment (a minimum of NPR 51000/-) and use (for retail or wholesale). Citing concern for safety, a debate is currently ongoing to ban the sale of agro-chemicals from veterinary pharmacies. The ban, if imposed, could affect the financial viability of agro-vet enterprises. Unlike in Bangladesh and India, a human pharmacy in Nepal is not allowed to keep veterinary drugs and vaccines. Veterinary drug/vaccine dispensing must be through different shops under separate license.

The interviews conducted revealed that orientation programs on dispensing, which the DDA and DLS are supposed to organize jointly, have not been organized for the last three years. Currently, the DDA is meeting with representatives of agro-vet associations and officials of DLS and working on protocols to organize orientation programs for those agro-vet license holders who have yet to attend the mandatory orientation course. There are many CAHWs within Nepal who are in possession of a drug license but have not attended a mandatory orientation program. It should be noted that

the Association of Veterinary Druggists and Chemists, Nepal are currently pressing the DDA/DLS to organize the orientation program and regularize the licenses given to 35-day-trained CAHWs.

Interestingly, veterinarians, para-veterinarians (known as Junior Technician and Junior Technical Assistants) and CAHWs trained under the CTEVT system cannot apply for veterinary pharmacy licenses in their own names, based on their qualification, as the DDA recognizes only the 35-day CAHW training provided by the DLS as the basic and recognized qualification for the granting of a veterinary drug license.

Unlike in India, there are no specific guidelines for the construction and mandatory facilities in a veterinary pharmacy. CAHWs with a retail drug license for veterinary drugs and vaccines are allowed to dispense all medicines/vaccines/diagnostics from their stationary shop only. However, in practice, many CAHWs are dispensing drugs at the doorsteps of farmers.

The interviews conducted in Nepal highlighted that a drug or vaccine is said to be dispensed only when the dispenser sells it to the user (with the issue of bill/receipts). In case of any complaint from a user, the 'sale receipt' is the prime document for the DDA to initiate action against the retail license holder. Since a drug license is mandatory to dispense drugs, this interpretation may indicate that someone providing drugs and vaccines free of charge is not required to obtain a drug license. But the definition of dispensing as discussed earlier, and the fact that dispensing is a skilled job with public health implications, does not support this interpretation.

The discussion with drug control officials also indicated that a CAHW using a drug/vaccine to treat an animal can be termed a service rather than dispensing, only when it can be proved that the CAHW is not earning from the distribution of the drug or vaccine. The case is similar with NGOs; i.e., an NGO cannot distribute/dispense drugs/vaccines for profit unless they have a drug license. However, the interpretations above pertaining to dispensing *vis-à-vis* service need proper validation.

⁶⁰ According to records of the Nepal Pharmacy Council, there are 1,311 Bachelor of Pharmacy graduates and 3,214 diploma holders in Pharmacy (Pharmacy Assistants) as at December 2013 in Nepal

As discussed earlier, as a rule of thumb, the function of prescribing and dispensing has to be done by a vet and a pharmacist respectively. Besides the unique competencies of these professions, this is primarily to prevent any incentive for vets to prescribe more to earn profit from the sale of drugs. Since CAHWs earn from the sale of drugs whilst providing doorstep services to farmers, in order to prevent misuse, they too should not be allowed to dispense drugs and vaccines. This is, however, not the case in Nepal, where CAHWs are given license to sell drugs/vaccines. This is probably due to the fact that the conditions for veterinary service in a difficult terrain are different. It should be noted that community human pharmacies, which are run by non-pharmacist professionals, are common in Nepal. Like CAHWs, they are also given orientation training on pharmacology and drug dispensing. These interpretations indicate the need for developing a monitoring system for CAHWs as a public health safeguard. Nepal has an organised pharmacovigilance system which incorporates adverse drug reaction (ADRs) from hospitals and tertiary care centres, but not from the community.

According to the Animal Health and Livestock Services Act, 2055 B.S. (1998), it is mandatory for private service providers to inform and collaborate with State officials to implement any vaccination or control programs against scheduled diseases. The Act also has the provision whereby the Nepal government can permit the private sector to construct a quarantine place. The quarantine officer must be a veterinarian. In the case of veterinary services linked to breed improvement, it should be noted that the Act empowers the Nepal Government to issue notification to castrate male animals in any part of Nepal other than those as specified in the notification.

According to DLS guidelines for crop and livestock insurance, CTEVT-trained para-vets (JTs/JTAs) and non-vet 'veterinary officers' in the Civil Service are allowed to issue health certificates for the purposes of insurance. However, according to the Animal Health and Livestock Services Act, 2055 BS, the granting of a 'Quarantine Certificate' or a 'Health Certificate' in relation to the control of infectious diseases and international trade is restricted to registered veterinarians only.

Unlike in India and Bangladesh, where responsibility for veterinary drug inspection lies with the Drug Control Department under the Health Ministry, in Nepal, the Animal Health and Livestock Service Act empowers the DLS to appoint or designate veterinary inspectors to inspect the quality and standard of veterinary drugs or biological products in places or institutions as necessary. A detailed review of this provision and discussion with interviewees, however, indicated that the power of veterinary inspectors is limited and cases have to be forwarded to the DDA for necessary action.

Any CSO/NGO in Nepal is legally required to be registered with the District Administration Office, under the Association Registration Act 1977. One can also register under the Company Act 2006 as a non-profit entity. Professional organizations can register under the National Directorate Act (1971). To receive foreign funding and implement programs with foreign support, local CSOs must receive advance approval from the Social Welfare Council (SWC). Renewal for CSOs registration is annual; they are also required to submit an annual report of their activities to District Development Committee.

Foreign CSOs can establish branch offices under a general agreement with the Social Welfare Council. INGO/Foreign CSOs are required to implement programs through local CSOs or government agencies only by entering into project-specific agreements. It should be noted that project-specific agreements require approval from as many as seven different ministries. INGOs are also required to register with the Aid Management Platform at the Ministry of Finance. Foreign CSOs in Nepal cannot engage in fundraising from domestic sources.

Tables 5 and 6 summarize the legal framework in Nepal in the context of non-State actors for individuals and institutions respectively.

Table five: LEGAL FRAMEWORK IN NEPAL FOR NON-STATE ACTORS (INDIVIDUALS)

Non-State Actors (Individuals)	Prescribing	Administration	Stocking	Dispensing	Distribution
Private veterinarian (registered under National/State council)	Yes	Yes	Yes (for use in own patients, with mandatory record keeping)	Yes (to own patients only, with mandatory record keeping)	Yes (with wholesale drug license, issued against an employee or partner pharmacist)
Private para-vet (trained for long term (more than 1 year) under State department or recognized institute)	No	Yes (all kinds of administration of drugs and vaccines)	Yes (with retail or wholesale drug license, issued against an employee or partner pharmacist)	Yes (with retail drug license, issued against an employee or partner pharmacist. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee or partner pharmacist)
CAHW (Trained for short term under DLS)	No	Yes (oral, external and parenteral application of prescribed drug and ocular/nasal/parenteral vaccination)	Yes (with retail or wholesale drug license, which can be issued in the name of the CAHW)	Yes (with retail drug license, which can be issued in the name of the CAHW . Prescription mandatory)	Yes (with wholesale drug license, which can be issued in the name of the CAHW)
CAHW (Trained under vocational council)	No	Yes (oral, external and parenteral application of prescribed drug and ocular/nasal/parenteral vaccination)	Yes (with retail or wholesale drug license only, issued against an employee or partner pharmacist)	Yes (with retail drug license only, issued against an employee or partner pharmacist. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee or partner pharmacist)
Leader farmer (Informally trained by NGOs)	No	No (as training is not formally recognized by state)	Yes (with proper record keeping. Prescription from veterinarian mandatory)	Yes (with retail drug license only, issued against an employee or partner pharmacist. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee or partner pharmacist)

NB: Yes (With wholesale drug license, which can be issued in the name of the CAHW)

Table six: LEGAL FRAMEWORK IN NEPAL FOR NON-STATE ACTORS (ORGANISATIONS)

Non-State Actors (Organizations)	Prescribing	Administration	Stocking	Dispensing	Distribution
Veterinary clinic (managed under the supervision of single or group of veterinarians)	Yes (must be signed by veterinarian owner/partner or employee)	Yes (through persons such as long-term trained para-vets or recognized CAHWs)	Yes (with retail/wholesale drug license, issued against an employee/partner pharmacist or CAHW)	Yes (with retail drug license, issued against an employee/partner pharmacist or CAHW. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee or partner pharmacist or CAHW)
NGOs	Yes (must be signed by a veterinarian member/employee)	Yes (through persons such as veterinarian or long-term trained para-vets or recognized CAHWs)	Yes (with retail/wholesale drug license, issued against a member/employee/partner pharmacist or CAHW)	Yes (with retail drug license, issued against an employee/partner/member pharmacist or CAHW. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee/partner pharmacist or CAHW)
Self-help group/farmers' organization/cooperatives.	Yes (must be signed by visiting or employed veterinarian)	Yes (through persons such as veterinarians or long term trained para-vets or CAHWs)	Yes (with proper record keeping. Prescription from veterinarian/para-vet (for permitted drugs only) mandatory)	Yes (with retail drug license, issued against an employee/partner/member pharmacist or CAHW. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee/partner/member pharmacist or CAHW)
Input traders	Yes (must be signed by veterinarian owner or employee)	Yes (through persons such as veterinarians or long-term trained para-vets or CAHWs)	Yes (with retail/wholesale drug license, issued against an employee or partner pharmacist or CAHW)	Yes (with retail drug license, issued against an employee/partner/pharmacist or CAHW. Prescription mandatory)	Yes (with wholesale drug license, issued against an employee/partner pharmacist or CAHW)

Reaching the unreached: *Heifer's way*

Heifer International in Nepal, through its signature program “Smallholders in Livestock Value Chain”, is primarily facilitating the formation of community institutions. The program is integrating them with the national market of meat and milk through significant increases in production and innovation in marketing, with the aim of increasing family income. All initiatives are being implemented in coordination with the Government of Nepal in general and local self-government at district level in particular. The project supports 98 implementing NGOs and currently collaborates with five national and international partner organizations. To date, Heifer International is active in 38 districts of Nepal and has reached 129,856 families.

This project provides capable candidates with 35 days of community agro-vet entrepreneur (CAVE) training and seven days of agriculture training. Government officials at district level often take part in their selection program. This extensive training builds participants' capacity to be service providers to farmers involved in livestock and agriculture activities. CAVE students also receive NPR 30,000; a microscope; an ear tagging machine; a cool box to preserve medication; and a Burdizzo castration device to set up their own agro-vet shop.

During 2009, Heifer International published a detailed manual covering all aspects of CAHW training, such as animal health and zoonosis, animal husbandry, animal breeding, basic animal nutrition, animal housing and general management practices. The manual covers the majority of livestock species in rural settings. These training programs are recognized by the Department of Livestock Services and participants receive certificates from competent authorities.

CAHWs working under the project maintain regular contact with DLS officials and the District Agriculture Development office. However, there is no agreed protocol for regular or periodic data sharing with the DLS in relation to animal health procedures attended by CAHWs and their supervision by veterinarians. CAHWs are also active members of the Agro-vet Workers' Network (an independent network) at the district level and regularly attend its interaction programs. The interaction programs are an important platform where CAHWs discuss their problems and disease-related cases, and can update their knowledge with the help of senior veterinary doctors. The organization of interaction programs and active monitoring of CAHWs in general depends on the leadership of both the Agro-vet Workers' Network and DLS officials at district level. The network shares resources and coordinates with the DLS office at district level to organize these interactions. The DLS office also uses the opportunity provided by these programs to publicly recognize individual CAHWs for their services.

The project encourages its trained CAHWs to further improve their career prospects by sitting for the JTA certificate examination as prescribed by the Council for Technical Education and Vocational Training.

The trained CAHWs willing to set up an “agro-vet shop” are also encouraged to apply for a mandatory drug license provided by the Department of Drug Administration (DDA) exclusively for DLS-recognized CAHWs. As far as field service delivery is concerned, CAHWs coordinate with the community facilitator (leader of self-help groups) for planned visits. This not only saves their time, but also makes intervention less costly for individual producer farmers.

For more information:
<http://www.heifernepal.org/>

7 Conclusion

The administrative, policy and legal framework at the level of ‘last-mile’ veterinary service delivery is largely similar in India, Bangladesh and Nepal. There are, however, subtle differences. The summary use of common policy tools⁶¹ in the context of animal health service delivery in all three countries, as described by people interviewed, is presented in Table 7 below.

Table seven: SUMMARY OF USE OF POLICY TOOLS IN INDIA, BANGLADESH AND NEPAL

POLICY TOOLS	OBSERVED USE OF TOOLS		
	India (study states only)	Bangladesh	Nepal
Decentralization*	Yes	Yes	Yes
Cost recovery of animal health services**	Yes	No	Yes
Support to vocational skill training in animal health care	Yes (preliminary)	Yes (preliminary)	Yes
Subcontracting of services to private sector	No***	No	Yes
Subsidies to private service providers	Yes****	No	Yes
Recognition of Community Animal Health Workers	Not used	Not used	Used
Support to membership-based organizations for service infrastructure development/delivery	Limited use	Limited use	Limited use
Direct subsidies to livestock farmers for animal health (e.g. vouchers, etc.)	Not used	Not used	Not used
Direct subsidies on veterinary drugs (free distribution)	Limited use (to poor families)	Limited use (to poor families)	Limited use (to poor families)
Direct subsidies on veterinary vaccines (free distribution)	Used for scheduled diseases during mass vaccination	Used for scheduled diseases during mass vaccination	Used for scheduled diseases during mass vaccination
Joint human–animal health system	Not tested	Not tested	Not tested

* What is observed is mostly de-concentration of services (shifting of administrative responsibility), with limited devolution (shifting of decision-making power). The local self-government institutions are not yet autonomous.

** What is observed is mostly partial recovery in select cases

*** Subcontracting seen only in case of AI services

**** Support to agri-clinics seen in potential areas

⁶¹ Refer FAO. 2010. Livestock sector policies and programmes in developing countries – a menu for practitioners, by U. Pica-Ciamarra, J. Otte and C. Martini. Rome, pp. 150

The private service delivery by non-State actors (mostly by NGOs) is widespread in Bangladesh and Nepal. The Government veterinary departments in these countries have a nominal presence in remote rural areas. In India, private veterinary service delivery is concentrated only in potential production belts for milk. The service delivery in rural remote areas of India, where livestock is a means of sustenance rather than commercial operation, is entirely dependent on Government infrastructure, which is comparatively better than in Bangladesh and Nepal. Unlike Nepal, there are no ongoing Government schemes in India and Bangladesh to augment private efforts in remote rural areas to complement Government services. However, among the six Indian study states, four states (Odisha, Nagaland, Bihar and Jharkhand) showed some degree of favorable policy environment and indirect promotion of non-State actors in remote rural areas. The study noted scope in India, under the Infectious and Contagious Diseases in Animals Act 2009, whereby the State government can notify agencies/individuals competent to vaccinate animals. This means that it is possible for a State in India to notify CAHWs under any recognized NGO as competent to vaccinate.

A reading of policy documents indicates that governments in India, Bangladesh and Nepal are responsive to the need for collaborative action to ensure service and product delivery to the remotest rural areas. However, what is important is the conversion of these written policies into plans, programs and projects. On the ground, in many instances, the Government and private sectors are working in isolation or in competition. At the operational level, there is ample scope to improve the coordination between State and non-State actors. There is inadequate managerial capability within the Government departments to lead the change process towards the privatization of curative service delivery. Investments made by international donor organizations have been instrumental to date, as far as sensitization and institutional leadership building is concerned. The efforts are, however, not widespread and have inadequately sensitized politicians. There is inadequate communication and lack of a system that can ensure structured data gathering on healthcare-related activities of non-State actors. Poor sharing of quality information has fuelled mistrust. The majority of NGO-led efforts, as observed in the study areas, have failed to create a critical mass of advocates for the privatization of service delivery by engaging with and addressing the concerns of public sector stakeholders.

The last-mile veterinary healthcare and product distribution in rural areas by less-trained service providers is often linked to risks in the context of food safety, drug resistance, infertility in productive animals, etc. Since para-professionals or CAHWs are indispensable in the absence of sufficient numbers of registered veterinarians in rural areas, the best way would be to assess this risk and ensure a regulatory, monitoring and capacity-building framework to mitigate this. The study did not record any efforts in this regard. Although a standard curriculum, scope for continuous learning and accreditation of para-professionals are urgently needed, it was observed that only Nepal has made appreciable progress in this regard. The study recorded major initiatives in India for skill development, including in the livestock and poultry industries. The availability of recognized short-term courses, such as those for animal vaccinators and animal/clinical attendants, is a good development. NGOs in India can liaise with certified vocational institutions to avail these opportunities for the formal training of CAHWs, thus legitimizing animal health interventions by CAHWs.

The fact that incentives from the sale of medicines can encourage a practitioner or service provider to prescribe or promote the use of more medicines is a fundamental concern, leading to regulations pertaining to drug dispensing. The law in general requires dispensing by registered pharmacists only. However, it is impractical to expect repeat visits by CAHWs to administer drugs and vaccines once a farmer collects the medicine from a pharmacy. The arrangement made in Nepal towards ensuring the additional training of CAHWs in order to obtain a retail drug license is a positive step. However, CAHWs in Nepal with drug licenses are not pharmacists, as they are not registered under the Nepal Pharmacy Council. In Bangladesh, CAHWs can take a three-month certificate program and register with the Bangladesh Pharmacy Council as 'C' category pharmacists. However, this opportunity seems to have hardly been used by CAHWs. There is limited effort at monitoring drug use by CAHWs, or at the promotion of any self-regulation. There is an argument in South Asian countries that farmers have a legal right to treat their animals. This does not hold well in the context of threats related to food safety and drug resistance. The risk of the farmer resorting to self treatment in the absence of a reliable doorstep service facility is a real threat, and the governments in the study countries are increasingly recognizing this.

The study noted a provision in the Drug Act in India to provide mobile vehicle licenses to wholesalers to distribute medicines to retail pharmacies in rural and remote areas. The drug license issued in all the study states is meant for stationary pharmacies only. This is important in the context of rural veterinary service and drug delivery. A veterinary service provider in rural areas, where there are few pharmacies, necessarily undertakes the dispensing of drugs and vaccines along with their administration. The summary analysis of field practices vs legal position (for India, Bangladesh and Nepal) in the context of various service areas is shown in Table 8 below.

Table eight: SUMMARY ANALYSIS OF FIELD PRACTICES VS LEGAL POSITION WITH COUNTRY DIFFERENCES

Service area	Practice in field	Legal position	Country difference
Prescription	Writing of prescription is not common amongst veterinarians in production animal practice.	A veterinarian must write the prescription whilst treating animals. There is no concept such as a herd prescription. A prescription must be written for each of the animals under treatment.	NA
Administration of drugs, vaccines	Anyone in service delivery, including owner farmer, administers drugs/vaccines	Owner farmer is not legally allowed to administer. Registered veterinarian/trained and government-recognized para-vet can do all kinds of administration.	In Nepal, CAHWs are allowed to administer. In India, intravenous (IV) administration by recognized para-vet should be under the supervision of a veterinarian.
Storing of drugs, vaccine and diagnostics	Anyone in service delivery, including owner farmer, stores drugs/vaccines.	Storing of large quantities of drugs and vaccines either for commercial purpose or for use in own farm requires mandatory wholesale or retail drug license. A farmer can avoid taking a license if he stores drugs/vaccines based on given prescriptions and if detailed records of use of such drugs under the supervision of veterinarian/authorized skilled person is available.	NA

Service area	Practice in field	Legal position	Country difference
Dispensing of drugs/vaccines	<p>Anyone in veterinary service delivery can dispense drugs/vaccines at farmer's doorstep. Usually this dispensing is considered as part of service delivery. Private veterinarians can dispense drugs and vaccines from their clinics. Moreover, very few issue invoices in the name of concerned farmer for dispensed drugs/vaccines.</p>	<p>Only person holding retail drug license can dispense. Dispensing must be from stationary pharmacy only and, as such, doorstep dispensing is illegal. Dispensing is not a part of veterinary service and is the prerogative of the pharmacist. A vet can dispense drugs and vaccines without a drug license only to his/her own patient following own prescription only. Without a drug license, a veterinarian is not allowed to do open dispensing in a pharmacy or a clinical set up. A clinic managed by a group of doctors must have a drug license to dispense drugs and vaccines from within the premises of their clinic. However, dispensing by doctors whilst treating in an emergency ward is permitted. Issue of an invoice to a farmer with proper information on dispensed drugs (name, manufacturer, batch number, etc.) is mandatory, as this is the farmer's consumer right.</p>	<p>In Nepal, CAHWs trained at Government-approved institutions can apply for a drug license for dispensing. However, CAHWs with a drug license are not registered under the Nepal Pharmacy Council.</p>
Distribution of veterinary drugs/ vaccines and diagnostics	<p>In many cases, distribution is taking place directly from manufacturers/wholesalers to para-vets and CAHWs who do not have retail drug licenses. In India, billing for such drugs is done through pharmacies, which get illegal commission.</p> <p>Many NGOs conduct camps for the free distribution of drugs and vaccines.</p>	<p>Distribution directly to para-vets or CAHWs for onward dispensing to farmers is not permitted. Direct distribution can, however, be made to a registered veterinarian (for use in his/her clinical set up). Record of purchase and use is mandatory and a drug inspector has the right to inspect such records.</p> <p>Only a veterinarian or a pharmacist (with prescription) can dispense drugs and vaccines, so the NGOs must ensure their association for any free distribution program. It is also mandatory to keep detailed records of freely-distributed drugs, vaccines and diagnostics.</p> <p>Free distribution of vaccines meant for the control of scheduled or notifiable diseases should be conducted with the permission of the relevant Government authority.</p>	<p>NA</p>

Service area	Practice in field	Legal position	Country difference
Use of veterinary diagnostics	Anyone in service delivery, including owner farmer, uses diagnostics when available.	If the diagnostics involve the application or administration of any chemicals on/to the animal, or if this has public health importance, this must be done by a registered person recognized/permitted by the State to do so.	NA
Veterinary treatment	Besides registered veterinarians, anyone in service delivery is carrying out veterinary treatment based on his/her skills.	Only India has a notified Minor Veterinary Service (MVS) to be performed by para-vets recognized by Government. MVSs should only be performed under the supervision of registered veterinarians. The list of MVSs in India includes: treatment for horn injury; close-method castration; wound dressing; treatment of tympani, indigestion, anorexia; handling of any external bleeding, burn, lightning strike, sunstroke, frostbite, electric shock, poisoning, snakebite, drowning, docking, dressing of naval cord, etc.	NA
Vaccination	Private individuals/ organizations are involved in vaccination and they charge fees from the farmers for this service.	For any vaccination related to scheduled or notifiable diseases, private organizations should mandatorily inform the authorized office of local government and seek their collaboration. Private organizations can charge fees for vaccinations as a service, but they must have a drug license to dispense vaccines and issue invoices to farmers for purchased vaccines.	NA
Training of CAHWs to assist in service delivery	In India and Bangladesh, NGOs are conducting training programs for CAHWs without written permission from State authorities. In many cases, this training is not structured and there are no monitoring and evaluation systems in place. However, in many cases, veterinarians from State authorities do conduct such training as NGO-invited trainers. (Interviews conducted in Bangladesh indicated only one NGO that has signed an MoU with the DLS for three years (2004–2007) to train CAHWs. Current training is conducted through Service Providers Associations (SPAs) and is not under any MoU. Government to date is also allowing the registration of 21 associations of NGO-trained CAHWs (SPAs), promoted by the same NGO.	Qualification of trainees cannot be accredited or recognized when the training program itself is not recognized formally by the State authority. To legitimize any training, it must be conducted based on courses recognized by State-sponsored agencies.	The legal definitions/ positions/permitted job profiles of CAHWs are not clear in India and Bangladesh. In Nepal, CAHWs are recognized and have structured training programs approved by the State and the Vocational Education Council. In Nepal, some CAHWs trained by the State are regulated at district level (issue of ID card). However, there is no written document detailing what CAHWs can do.



The promotion of farmers' organizations and their empowerment is a policy thrust in all the countries under study. Attempts are being made to federate such groups at various levels to link them to both input and output market actors. Many organizations have found it a strategic necessity to use farmers' organizations as a vehicle for service and product delivery where possible. CAHWs who belong to farmers' groups or organizations remain accountable to other group members. Community-based service delivery in each of the countries is also common in the health and rural development sectors. There is ample scope for knowledge sharing across sectors. The village-level workers in the fields of health and rural development visit livestock farmers' households to guide them on various development opportunities and, as such, can also be strategically linked to veterinary service and extension.

A very important observation is the emerging role of local self-governments in all the study countries. Decentralization has been a priority, as has an attempt on the part of the Government to make democratic administration responsive, responsible and representative. The study recorded devolution of powers pertaining to animal healthcare to local self-governments. There are, however, limited examples to date of community animal health projects that are being implemented in joint association with such local governments.

Another aspect of decentralization is bottom-up planning, whereby local bodies are empowered to

contribute. However, not much is being done to build local capacity to plan and implement projects. This paradigm shift in the planning process is ongoing in India and is likely to be taken up with renewed vigour in Bangladesh and Nepal. National flagship projects in India, such as the National Agricultural Development Program (Rashtriya Krishi Vikash Yojana-RKVY), are already giving a free hand to the states to design their own projects based on State-and district-level plan documents. These projects are approved at the State level itself. A framework is already in place for public-private partnership (PPP) in agriculture and animal husbandry under the said program. The majority of NGO-led initiatives in the field of community animal health services in the study countries have either not made any effort or have been unsuccessful in tapping government resources which could have enhanced impact and assisted the replication of success stories.

Examples recorded during the study, such as the formation of service providers' associations of CAHWs for quality assurance, monitoring and continuous capacity building of member service providers, is worthy of emulation. To reduce the cost of veterinary intervention and to ensure continuous service, such service providers' associations can be linked to trained private veterinarians, or to State-managed veterinary facilities, that are capable of implementing a preventive health care regime based on pro-active data gathering and analysis of various trends as seen in developed countries.

8 Scope for Further Study

This study could be the basis for conducting a quantitative study to assess the animal health provision in each of the study countries. This would help in justifying the need for investment and in informing appropriate policies to engage and empower private players. This report could also help in conducting a training needs assessment (TNA) for professionals within the sector for capacity building in the field of policy formulation.

There exist a number of successful initiatives within the region, including the application of information technology to ensure the provision of veterinary service and health product delivery to remote rural areas. Besides highlighting some public sector initiatives in India, the current study documents only three case studies. There is scope for further review of other successful initiatives, with the aim of increasing understanding of the specific constraints for the scaling up of initiatives and how they are addressed and overcome. This would be beneficial to other initiatives in the region that could replicate proven successful models.

Countries in South Asia share porous borders in many cases. This makes the implementation of animal health-related laws difficult, in the absence of regional or inter-State collaboration (in the case of India). The scope of the present study excluded the administrative, policy and legal provisions to

address this constraint. The findings of the study could, however, help representative institutions such the 'Regional Support Unit (RSU) for Highly Pathogenic and Emerging Diseases (HPED) for SAARC countries' to undertake required reviews.

The analysis of the legal framework in each of the countries indicates that most of the required laws are in place. However, enforcement of the law in many cases is wanting. Moreover, there are limited attempts to review the applicability of, or the need for, certain laws in the context of a changing environment. This may be due to poor awareness, weak capacity of statutory bodies, inadequate coordination between mandated departments, etc. The current study could be a basis for a country-/State-focused and more detailed review of the implementation of the various legal provisions, organizational structures, responsibility centres within implementing departments, and the resource requirements of statutory bodies, with the aim of strengthening enforcement.

The study recorded the debate amongst stakeholders for a separate veterinary drug administration authority. However, there are limited studies to highlight the uniqueness related to veterinary drug administration and the requisite skills in the context of the respective countries. This study could inform such debate.



photo: Anita Swarup

9 Recommendations

There are documented and successful initiatives in all the countries covered under this study. Para-professionals and community animal health workers are indispensable in the absence of sufficient numbers of registered veterinarians in rural areas. The risk of farmers resorting to self-treatment in the absence of a reliable doorstep service facility is a real threat to public health. OIE has suggested that governments which choose to sanction the existence of para-professionals and CAHWs develop the appropriate regulatory framework to ensure the quality of veterinary services. Governments need to conduct opportunity, skill and risk mapping of service delivery by various types of para-professionals and CAHWs. This should be participatory in nature and should ensure the involvement of both public and private stakeholders. The exercise should lead to outcomes such as:

- 1 The development of detailed occupational standards (OS)⁶² for various types of para-professionals and CAHWs.
- 2 A standardized training curriculum and framework for continuous learning for para-professionals and CAHWs.
- 3 A structured system of data collection of animal health-related events, attended by all notified para-professionals and CAHWs, in order to establish a less costly preventive healthcare regime in rural areas.
- 4 An applied monitoring model at district level, with periodic data sharing between private institutions in service delivery and nodal government officials.
- 5 An incentive-driven plan to augment collective action and self-regulation on the part of private para-professionals and CAHWs.

The National Skill Development Council, or any associated organization with a specific mandate (for example, the Agriculture Skill Council of India (ASCI)), can be a nodal resource for leadership in this regard. Only publicly-funded organizations can create the required ground for official recognition of the various categories of para-vets by defining standards, essentially taking care of any associated risk.

Opportunities for leadership and project management training for key Government officials in the animal health and husbandry sector are a pre-requisite, to ensure that there is enhanced capacity to manage the change process towards the privatization of service delivery. Enhanced numbers of trained executives and sensitized politicians could help in transforming policies into appropriate plans, programs and projects. Considering the decentralization of the planning process in all the study countries, such training programmes should be tailored to the local context and should be conducted with the active participation of local self-governments. Accredited professional organizations with management training-related expertise could develop tailor-made training programs and market these to this niche segment (e.g., animal health and husbandry). Public and private universities could also take a lead in this regard, by launching short-term executive programs.

The Country and State governments should establish task forces/appoint nodal officers for regular interaction with private sector service providers, and should conduct periodic public expenditure reviews in the context of emerging and future challenges related to service delivery.

More academic effort on the part of educational institutions is needed to compare community actions in human healthcare with those in rural development and animal healthcare, exploring ways to integrate these, following the 'one health' approach.

⁶² OS describes what individuals need to do, know and understand in order to carry out a particular job role or function

GALVmed, its partners and NGOs active in the implementation of community animal health projects should ensure:

- 1** Promotion of CAHWs who have attended structured and recognized training courses. This can be done by facilitating linkage of CAHWs with vocational training centres recognized by Government or skill development councils.
- 2** Promotion of collective actions on the part of private para-professionals/CAHWs and institutional capacity building of such collective initiatives (e.g., associations, companies, etc.), so that they can support and self-regulate members over and above Government regulations (where available).
- 3** Fixation of accountability of hired para-professionals/CAHWs with farmers' organizations or local self-governing bodies such as Panchayats. This can be done by involving these organizations in the selection and monitoring of hired para-professionals.
- 4** Investment in improving communication and stakeholder engagements; possibly exploring ways to partner or share resources (e.g., materials, skills and abilities of people) with local governments.
- 5** Investment in internal cost-effective systems that can ensure structured data gathering on healthcare-related events attended by contracted/supported actors, who are working under an overall organizational umbrella. This can help organizations supervise actions with public health implications.
- 6** Sharing of data with public authorities as per agreed format, containing basic data such as area covered, curative cases attended, nature of drugs distributed, vaccinations performed within period, etc.

Subsidiary/delegated legislation (made by an executive branch of Government), is often the most appropriate and quickest way of changing legislation. This, however, must be authorised by primary legislation. The study noted that India's primary legislation, the Infectious and Contagious Diseases in Animals Act 2009, empowers State executives to

notify agencies/individuals competent to vaccinate animals. The following are some of the areas where changes to legislation are required in order to ensure last-mile service delivery:

- 1** Recognizing and regulating private para-professionals and CAHWs to contribute as non-State actors in veterinary service delivery.
- 2** Permitting para-professionals and CAHWs to attend specific training under a Pharmacy Council to register as community pharmacists.
- 3** Permitting dispensing from private mobile facilities, including doorstep dispensing, by licenced para-professionals and CAHWs.
- 4** Permission for herd-level prescriptions by veterinarians, as well as prescriptions for individual animals.
- 5** Setting up of an animal identification authority (e.g., facilitating animal identification and data handling by private entities).

GALVmed could initiate an advocacy campaign in the respective countries for secondary legislation in all the above areas.

The donor agencies should ensure that any project should select areas and beneficiaries, taking into account local government priorities, ongoing plans and programs. The tapping of matching contributions from government agencies, or the collaboration of private intervention with existing publicly-funded programs, could bring synergy and greater impact. Public-private collaboration in service delivery would also address the perceived concerns of Government agencies in relation to the 'five A's' of service delivery, viz. Availability, Accessibility, Acceptability, Adequacy and Affordability.

Statutory organizations, such as veterinary councils, should initiate steps to ensure the increased supply of quality veterinarians in rural areas, as well as tailored skill development programs to augment the business acumen of private veterinarians.

Private veterinarians can emulate existing examples in which they lead production-enhancing preventive healthcare regimes in rural areas in association with groups of para-professionals and CAHWs.

10 Acknowledgements

We would like to offer our sincere thanks to Dr Lois Muraguri, Dr Mamta Dhawan and Dr Peetambar Kushwaha of GALVmed for their constant support during implementation of the study and their thoughtful and patient guidance in reviewing the report throughout the production process. Our thanks also go to Ms Sharmila Dutta, Office Manager of GALVmed South Asia Office, for her support in the successful organization of field visits.

We would like to acknowledge the contributions of Dr Mohinder Oberoi, Dr Khadak Singh Bisht and Dr Baikuntha Parajuli of the Regional Support Unit (SAARC) and Emergency Centre for Transboundary Animal Diseases (ECTAD) of the Food and Agriculture Organization of the United Nations for their valuable input and networking support.

Mr Durga Bahadur K C, Dr Gaurav Rawal, Mr Miatho Krose, Dr Kornel Das, Dr Sabal Chaulagain and many others provided local assistance to visiting consultants from Vet Helpline India in meeting key contacts.

Dr John Weaver provided valuable guidance on OIE-related literature.

A number of Government officials, academicians, NGO functionaries, private companies, agro-vet shops, farmers and field workers in each of the study areas provided their full cooperation. This report draws heavily on their opinions, suggestions and collective wisdom.

Miftahul Islam Barbaruah
Director, Vet Helpline India Pvt. Ltd.

ANNEX 1: References

INTERNATIONAL

- 1 FAO (2012). Livestock Sector Development for poverty reduction: An economic and policy perspective. Livestock's many virtues. <http://www.fao.org/docrep/015/i2744e/i2744e00.pdf>
- 2 FAO (2010). Livestock sector policies and programmes in developing countries – a menu for practitioners. By U. Pica-Ciamarra, J. Otte & C. Martini. Rome. 150 pp. <http://www.fao.org/docrep/012/i1520e/i1520e00.htm>
- 3 Jim Fingleton (2004). Legislation for Veterinary Drugs Control. http://www.fao.org/fileadmin/user_upload/legal/docs/lpo38.pdf
- 4 IFAD/DANIDA/The World Bank (2004). Livestock Services and the poor – A global initiative. <http://www.ifad.org/lrkm/book/english.pdf>
- 5 PPLPI (2005). Working Paper: Animal Health Policy and Practice: Scaling up Community-based Animal Health Systems, Lessons from Human Health. <http://www.fao.org/ag/againfo/programmes/en/pplpi/docarc/wp22.pdf>

OIE PUBLICATIONS

- 6 Cheneau, Y. (2004). An assessment of the strengths and weaknesses of current veterinary systems in the developing world. *Rev.sci.tech.Off.int.Epiz.* 23(1), 351–359. <http://www.ncbi.nlm.nih.gov/pubmed/15200109>
- 7 Good governance and financing of efficient veterinary services, volume 31 [2], August 2012, <http://www.scribd.com/doc/159411584/00-Contents-385390>
- 8 Veterinary Legislation, Terrestrial Animal Health Standard Commission (2011), Chapter 3.4. <http://www.oie.int/international-standard-setting/terrestrial-code/access-online/>
- 9 Guidelines on veterinary legislation, OIE. http://www.oie.int/fileadmin/Home/eng/Support_to_OIE_Members/docs/pdf/A_Guidelines_VetLeg.pdf
- 10 Ahuja, V. (2004). The Economic Rationale of public and private sector roles in the provision of animal Health services. *Rev.sci.tech.Off.int.Epiz.* 23(1), 33–45. <http://www.ncbi.nlm.nih.gov/pubmed/15200085>
- 11 Holden, S. (1999). The economics of the delivery of veterinary services. *Rev.sci.tech.Off.int.Epiz.* 18(2), 425–43. <http://www.oie.int/doc/ged/D9253.PDF>
- 12 Woodford, J. D. (2004). Synergies between veterinarians and para-professionals in the public and private sectors: organizational and institutional relationships that facilitate the process of privatizing animal health services in developing countries. *Rev. Sci. tech. off. int.Epiz.* 23(1), 115–135. <http://www.oie.int/doc/ged/D867.PDF>

OTHER RESEARCH PAPERS

- 13 Umali, Dina L., Gershon Feder & Comelis de Haan (1992). The balance between public and private sector activities in the delivery of livestock services. *World Bank Discussion Paper* 163.
http://econ.worldbank.org/external/default/main?pagePK=64165259&theSitePK=469372&piPK=64165421&menuPK=64166093&entityID=000178830_98101903551264
- 14 Sen, A. & Chander, M. (2003). Privatization of veterinary services in developing countries – a review. *Tropical Animal Health and Production* 35(3), 233–236.
<http://www.ncbi.nlm.nih.gov/pubmed/12797412>
- 15 Cinnamon Ana Riviere (2005). Animal Health Policy and Practice: Scaling-up community-based animal health systems, lessons from Human Health. *FAO- PPLPI Working Paper* No. 22.
<http://www.fao.org/ag/againfo/programmes/en/pplpi/docarc/wp22.pdf>
- 16 Bekele Gezu & Akumu Jeremiah (2009). Impact Assessment of the Community Animal Health System in Mandera West District, Kenya.
<http://www.disasterriskreduction.net/east-central-africa/documents/detail/en/c/1376/>

INDIA

National:

Books, Reports and Papers

- 17 Vijay Malik. *Law Relating to Drugs and Cosmetics*. 23rd Edition.
- 18 Forty-eighth Report on the Demands for Grants (2013–2014) of the Ministry of Agriculture (Department of Animal Husbandry, Dairying and Fisheries).
<http://www.performance.gov.in/sites/default/files/departments/animal-husbandry/Standing%20Committee%20Reports%202013-14.pdf>
- 19 Report of the working group on Animal Husbandry & Dairying, 12th Five-year plan (2012–17). Planning Commission, Government of India.
http://planningcommission.gov.in/aboutus/committee/wrkgrp12/agri/AHD_REPORT_Final_rev.pdf
- 20 State of Indian Agriculture (2012–2013). Ministry of Agriculture, Government of India.
[http://164.100.47.132/paperlaidfiles/AGRICULTURE/State%20of%20Indian%20Agriculture%202012-13%20\(English\)%20with%20cover.pdf](http://164.100.47.132/paperlaidfiles/AGRICULTURE/State%20of%20Indian%20Agriculture%202012-13%20(English)%20with%20cover.pdf)
- 21 Sasidhar, P. V. K. (2013). A quantitative analysis of the supply and demand of veterinary manpower in India: implications for policy decisions. *Rev.sci.tech.Off.int Epiz.* 32(3), 639–644.
<http://www.ncbi.nlm.nih.gov/pubmed/24761720>
- 22 Ahuja Vinod (2008). *Animal Health for Poverty Alleviation: A Review of key issues for India Background*. Paper prepared for “Livestock Sector Review” of The World Bank.
- 23 *Global Health Strategies* (2011). Policy landscape and think tanks in India: Paradigms, Processes and Future Directions.
<http://www.ghstrat.com/forms/Think-Tanks-in-India.pdf>
- 24 Jeffery Roger (2007). *Pharmaceutical distribution system in India*. Working paper prepared for workshop on “Tracing Pharmaceuticals in South Asia”. Centre for International Public Health Policy, University of Edinburgh.
http://www.csas.ed.ac.uk/__data/assets/pdf_file/0003/38829/PharmaDistributionIndia.pdf
- 25 Pardeshi Arvind (2011). *Role and Function of Drug Regulatory Authorities in the backdrop of good governance*. Rajiv Gandhi School of Intellectual Property Law.
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1748629

- 26** Sarda, Rohit R. (2012). The Indian Pharmaceutical Industry: Evolution of Regulatory System and Present Scenario. *International Research Journal of Pharmacy*.
http://www.irjponline.com/admin/php/uploads/1164_.pdf
- 27** C K Rao & Misra Shefali. Participatory Livestock Policy Development: Experiences in Collaboration from Orissa, Sikkim and Chhattisgarh.
<http://indiagovernance.gov.in/files/participatorylivestock.pdf>
- 28** Agriculture Skill Council of India. Qualification Pack – Dairy Farmers/Entrepreneur. Qualification Pack – Occupational Standards for Agriculture.
<http://www.nsdcindia.org/pdf/qp-dairy-farmer.pdf>
- 29** Agriculture Skill Council of India. Qualification Pack – Dairy worker. Qualification Pack – Occupational Standards for Agriculture.
http://nscsindia.org/App_Documents/QPs/AGR%20Q%200501%20Dairy%20Worker.pdf
- 30** Kumar Anjani (2007). Livestock Sector in Northeastern region of India: An appraisal of performance. *Agricultural Economics Research Review* 20, 255–272.
http://www.researchgate.net/publication/46534902_Livestock_Sector_in_North-Eastern_Region_of_India_An_Appraisal_of_Performance

Policy, Guidelines, Acts, Rules, Meeting minutes, Court verdicts, Syllabus and databases

- 31** National Livestock Policy.2013.
<http://www.dahd.nic.in/dahd/WriteReadData/NLP%202013%20Final11.pdf>
- 32** The Indian Veterinary Council Act, 1984 (No.52 of 1984).
<http://dahd.nic.in/dahd/acts-rules/indian-veterinary-council-act-1984-no-52-of-1984.aspx>
- 33** The Gazette of India, December 14, 2010: Rules under the Prevention and Control of Infectious and Contagious Disease in Animals Act 2009.
<http://dahd.nic.in/dahd/WriteReadData/RULES%20PREVENTION%20AND%20CONTROL.PDF>
- 34** Department of Biotechnology and Central Drugs Standard Control Organization (2012). Guidelines on Similar Biologicals: Regulatory requirements for Marketing Authorization in India.
<http://dbtbiosafety.nic.in/Files%5CCDSCO-DBTSimilarBiologicsfinal.pdf>
- 35** Directorate General of Health Services (2011). National Policy for Containment of Antimicrobial Resistance: India.
http://nicd.nic.in/ab_policy.pdf
- 36** The Drugs and Cosmetics Rules, 1945 – Part VI (Sale of Drugs other than homoeopathic medicines).
<http://www.rajswashya.nic.in/Drug%20Website%2021.01.11/13%20D%20&%20C%20Rules%20for%20Sales.pdf>
- 37** Minutes of the meeting on Indian Pharmacopoeia – Veterinary Monographs dated 23rd–24th January 2013 at IPC, Ghaziabad.
- 38** Veterinary Council of India Regulation, New Delhi, 1 April 1992.
<http://dadf.gov.in/dahd/upload/codeethics.pdf>
- 39** Supreme Court of India verdict on Writ Petition (Civil) 4 of 2005, Udai Singh Dagar & Ors. On constitutional validity of section 30 of Veterinary Council Act 1984.
- 40** Directorate General of Employment & Training, Ministry of Labor & Employment, GOI (2011). Syllabus under Skill Development Initiative Scheme based on Modular Employable Skills on Animal Husbandry and Meat Processing.
<http://www.dget.nic.in/MES/curricula/AnimalHusbandry.pdf>
- 41** Department of Economic Affairs. Notification dated 27 December 2013 on National Skill Qualification Framework (NSQF).
http://www.skilldevelopment.gov.in/sites/default/files/resources/NQSF_Notification_English.pdf

42 All-India Vocational Training Providers (VTP) database and list of skill development programs, as accessed through <http://sdi.gov.in>

43 Directorate-General of Employment & Training, Ministry of Labor & Employment, GOI. Short-term courses based on Modular Employable Skills in the Poultry Sector. <http://www.dget.nic.in/mes/curricula/Poultry.pdf>

National:

Assam

44 Draft Assam Dairy Policy 2008.

45 Assam 2011 – A development perspective. Government of Assam.

46 Assam Minor Veterinary Notification.

47 Barbaruah, M. I. (2012). Livestock Sector Development in Assam. <http://www.vethelplineindia.co.in> (As accessed January 2014)

Bihar

48 Draft report on Breeding policy 2008 for dairy animal improvement. <http://ahd.bih.nic.in/Docs/Breeding-Policy-Bihar.pdf>

49 Bihar Agriculture Road Map 2012 (Animal Husbandry Section). http://krishi.bih.nic.in/roadmapEN/Road%20Map%20Pdf_book/Index%20i-xvi.pdf

50 Bihar Agriculture Road Map 2012 (*Ajeevika* or Livelihood Section).

51 Guidelines for Village resource person (*Jeevika*). <http://brlp.in/admin/Files/Process%20guidelines%20for%20Agriculture%20Intervention.pdf>

52 Veterinary department circular on skill development courses (including one related to service delivery).

53 Singh, K. M., Singh, R. K. P., Jha, A. K. & Meena, M. S. (2010). Dynamics of Livestock Sector in Bihar: A temporal analysis. *Agricultural Situation in India* LXVI, 687–702. <http://mpr.ub.uni-muenchen.de/47094/>

54 Handbook of innovation (Published by *Jeevika*).

Jharkhand

55 Draft Agricultural Policy 2011. [http://www.sameti.org/Important%20Circulars/Draft%20Agriculture%20Policy-2011%20_Jharkhand\(7.9.2011\).pdf](http://www.sameti.org/Important%20Circulars/Draft%20Agriculture%20Policy-2011%20_Jharkhand(7.9.2011).pdf)

56 Vision 2030. Birsa Agricultural University. <http://www.baujharkhand.org/Downloads/vision%202030.pdf>

57 Jharkhand State Agricultural Development Plan 2008–2010/11. <http://rkvy.nic.in/sap/jh.pdf>

58 Potential for livelihood improvement through livestock development in Jharkhand (2011). ILRI. <http://cgspace.cgiar.org/bitstream/handle/10568/3328/JharkhandReport.pdf?sequence=1>

59 *Bibhagiya Adhinyam, Niyamabali, Sankalp tatha anyya adhisuchana ki sankalpit pustika* (Comprehensive Book on all relevant act, rules and government notification). (Only hard copy).

Odisha

- 60** State Agricultural Policy 2013.
http://agriodisha.nic.in/pdf/State_Agriculture_Policy_2013_e.pdf
- 61** Ahuja, V. (2003). The delivery of veterinary services to poorer communities: the case of rural Orissa, India.
<http://www.ncbi.nlm.nih.gov/pubmed/15005551>
- 62** Perspective Plan ARD Sector 2010–2020.
<http://orissaahvs.com/File/perspective%20plan.pdf>
- 63** Ashok Tripathy. Livestock Sector Policy for Orissa.
<http://www.fao.org/ag/AGAInfo/programmes/en/pplpi/docarc/LSP402.pdf>
- 64** Orissa State Livestock Sector policy 2002.
- 65** Rangnekar. D. V. & Maarse Lucy (2009). Light Assessment of Livestock sector policy formulation and its implementation in Orissa.
http://orissaahvs.com/File/LightAssessmentOrissaLivestockPolicy-March_2009.pdf
- 66** Notification for Minor Veterinary Services dated 12 June 2008, with modification dated 12 January 2014, pertaining to exclusion of AI services.
<http://odisha.gov.in/govtpress/pdf/2014/241.pdf>
- 67** Operational guidelines for mobile veterinary units in Orissa under RKVY.
[http://orissaahvs.com/File/Mobile%20Vety%20Unit\(guideline\).pdf](http://orissaahvs.com/File/Mobile%20Vety%20Unit(guideline).pdf)
- 68** Swapneswar Baya. Functioning of *Panchayati Raj* Institutions in Odisha. (Powerpoint presentation)
- 69** Annual Report (2011–12). Orissa University of Agriculture and Technology.
<http://www.ouat.ac.in/download/AR-2011-12.pdf>
- 70** Ilse Köhler-Rollefson (2011). Exploring Orissa's animal cultures with Dr. Balaram's *Pathe Pathshala*.
http://www.pastoralpeoples.org/docs/exploring_orissa.pdf
- 71** Sweety Samal. Heifer International in Orissa.
<http://www.fao.org/ag/againfo/programmes/en/pplpi/docarc/LSP310.pdf>
- 72** Copy of Agreement between BAIF and Government of Orissa for delivery of services.

Nagaland

- 73** Nagaland Minor Veterinary Practice Notification.
- 74** The Nagaland State Veterinary Council Rules, 1999 (under the Indian Veterinary Council Act 1984).
- 75** A manual of the Rural Development Department, Nagaland.
- 76** The Nagaland Livestock and Poultry Contagious Disease Act 1980.
- 77** The Nagaland Village and Area Council Act 1978.
- 78** The Nagaland Communitisation of Public Institutions and Services Act 2002.
- 79** Communitisation: The third way of Governance – A book by Mr R. S. Pandey (Concept Publishing Company Pvt. Ltd, New Delhi).
- 80** Building upon Traditional Agriculture in Nagaland, India (October 1999, Reprint 2005).
A joint publication of NEPED, Nagaland and the International Institute of Rural Reconstruction.
- 81** Veterinary First Aid for Pigs. Training Manual. ILRI (2011).
<http://cgspace.cgiar.org/bitstream/handle/10568/12534/PigFirstAidSetting.pdf?sequence=1>
- 82** Traditional Agricultural Practices & Sustainable Livelihood – A Thematic report (A GOI–UNDP project).
<http://nagaland.nic.in/Report/TRADITIONAL%20AGRICULTURE%20-%20A%20Thematic%20Report.pdf>

West Bengal

- 83** Minor Veterinary Services (MVS) Notification dated 4 January 2013. (Memo no. 2473 (12) 4A-29/11).
- 84** MVS Notification dated 4 January 2013, permitting LDAs to render minor veterinary services and artificial insemination. (Memo No. 2475 AR&AH/4A-29/11).
- 85** MVS Notification dated 4 January 2013, permitting veterinary pharmacists to render minor veterinary services and artificial insemination. (Memo No. 2474 AR&AH/4A-29/11)
- 86** MVS Notification dated 4 January 2013, removing artificial insemination services from minor veterinary notification. (Memo No. 2476 AR&AH/4A-29/11)
- 87** Meeting notice and Syllabus of Livestock Assistant Certificate course proposed by Government of India.
- 88** Memorandum of West Bengal Veterinary Alumni Association to Honorable Chief Minister of West Bengal, dated 31 October 2013.
- 89** Proposal dated 12 July 2013, for modification of existing breeding policy of cattle and buffaloes of West Bengal. Submitted to Director of Animal Husbandry and Veterinary Services by West Bengal Veterinary Alumni Association.
- 90** Duties and responsibilities of Block Livestock Development officers, Veterinary Surgeons and Livestock Development Assistants.
- 91** Office communication from Labor Department regarding recruitment of livestock development assistants. (Date of communication 25 January 2007).
- 92** General information on two-year Diploma in Veterinary Pharmacy course.
- 93** Copy of Memorandum of West Bengal Veterinary Alumni Association to Minister in charge of Animal Resource Development Department, dated 7th October 2013, highlighting professional demands of the association.
- 94** List of Agri-clinics in West Bengal, as accessed from <http://www.agriclinics.net/>
- 95** Annual Administrative Report 2011–12 of the Animal Resources Development Department, Government of West Bengal.
- 96** Do's and Don'ts of drug control. Directorate of Drug Control, Government of West Bengal. http://www.wbhealth.gov.in/site2/pdf/do_donts_eng.pdf
- 97** The West Bengal Clinical Establishment Rules 2003. http://www.wbhealth.gov.in/download/ce_act.pdf
- 99** Livestock Population Hand Book 2009. Government of West Bengal.
- 100** West Bengal Veterinary Council Rules 1999. <http://www.wbvc.in/acts.php>
- 101** Maiti Sanjit (2011). Performance of Public–Private Partnership Model of Veterinary Services in West Bengal. <http://www.seea.org.in/vol11-2-2011/01.pdf>
- 102** Notice: Mandatory endorsement of pharmacist in drug license. http://www.wbhealth.gov.in/site2/notice_ddc.pdf
- 103** West Bengal Veterinary Practitioners Act 1960. <http://www.commonlii.org/in/legis/wb/act/wbvpa1960400.pdf>

BANGLADESH

- 104** Bangladesh Veterinarians Directory 2012. (The book contains all relevant acts in Bengali, an article on the veterinary profession and the names of registered veterinarians.)
- 105** Mohammad Mohi Uddin (2010). Institutional and organizational issues in livestock service delivery in Bangladesh. Humboldt University, Berlin, Germany. *Journal of International Agriculture* 49(2), 111–125. <http://ageconsearch.umn.edu/handle/155544>
- 106** M.Golam Shahi Alam (2013). Improving Veterinary Services in Bangladesh. Article in *The Financial Express*, 13 April 2013. <http://www.thefinancialexpress-bd.com/old/index.php?ref=MjBfMDRfMTNfMTNfMV8yN18xNjYyODU=>
- 107** Mohammad A. Jabbar (2007). Formal and informal contract farming in Poultry in Bangladesh. http://www.fao.org/ag/againfo/home/events/bangkok2007/docs/part3/3_6.pdf
- 108** Nasrin Jahan (2003). Livestock services and poor in Bangladesh – A case study Report of DANIDA, IFAD and The World Bank.
- 109** FAO (2014). Farmers Organization in Bangladesh: An initial mapping and capacity assessment exercise. <http://www.fao.org/docrep/019/i3593e/i3593e.pdf>
- 110** M A Jabbar (2011). Exit from Bangladesh Poultry Industry: Cause and Solutions. ILRI Policy brief. http://cgspace.cgiar.org/bitstream/handle/10568/16379/Policy_Brief_Bangladesh%20print.pdf?sequence=11
- 111** Private rural service provision brochure of SDC-funded Samridhi project of Helvetas Swis Inter corporation.
- 112** Abu Nasar Md. Aminoor Rahman. Skills for Development: Present Status of Vocational Programmes in Livestock and Fisheries at Bangladesh Open University (BOU).
- 113** Al-Amin Abdul Quasem (2011). An Analysis of Animal Health and Veterinary Facilities in coping with climate change in Bangladesh: what education system can offer for the benefit. *Asian Journal of Animal and Veterinary Advances* 6(12), 1224–1232. http://irep.iium.edu.my/7549/1/Analysis_of_animal_health.pdf
- 114** Mia Ahmadullah. Qualifications Frameworks: Implementation and Impact: Background case study on Bangladesh. ILO. http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/genericdocument/wcms_126590.pdf
- 115** Parvez M Chowdhury (2010). An overview of the pharmaceutical sector in Bangladesh. http://bracepl.com/brokerage/research/1301468109Pharma_Overview.pdf

Policy documents:

- 116** Final draft of National Livestock Extension Policy 2013.
- 117** National Livestock Development Policy 2007. http://www.mofl.gov.bd/pdf/Livestock_Policy-Final%20copy.pdf
- 118** Bangladesh Country Investment Plan 2011. <http://sa.indiaenvironmentportal.org.in/files/bangladesh%20country%20investment%20plan.pdf>
- 119** Government Budget Speech 2013–14 by Abul Maal Abdul Muhith, Minister, Ministry of Finance, Government of the People’s Republic of Bangladesh. http://www.mof.gov.bd/en/budget/13_14/budget_speech/speech_en.pdf

NEPAL

- 120** Animal Health and Livestock Services Act, 2055 BS.
<http://www.nva.org.np/files/download/7.pdf>
- 121** Animal Health and Livestock Services Regulation, 2056 BS.
http://www.spsenquiry.gov.np/downloadfile/animal-livestock-rules_1304936305.pdf
- 122** Drugs Act, 2035 BS.
<http://www.dda.gov.np/drugact.php>
- 123** National Drug Policy 1995.
www.dda.gov.np/National%20Drug%20Policy.doc
- 124** National Agricultural Policy, 2004.
www.investnepal.gov.np/portal/index.php?p1=download&f..
- 125** Nepal Pharmacy Council Act, 2057 BS.
<http://www.nepalpharmacycouncil.org.np/downloads/Act.pdf>
- 126** Nepal Pharmacy Council Rules, 2059 BS.
<http://www.nepalpharmacycouncil.org.np/downloads/Regulation.pdf>
- 127** Nepal Veterinary Council Act, 2055 BS.
<http://nvc.com.np/council.php?id=2>
- 128** Nepal Veterinary Council Rules, 2057 BS.
<http://nvc.com.np/council.php?id=2>
- 129** FAO (2010). Agricultural Extension Services Delivery System in Nepal.
<ftp://ftp.fao.org/osd/CPF/Country%20NMTPF/Nepal/AgExtServDelSysNepal.pdf>
- 130** Technical Report (2067–2068 BS), Directorate of Animal Health.
<http://ahd.gov.np/wp-content/uploads/2013/08/Annuanl-Technical- Report- 206768.pdf>
- 131** Ram K Khatiwada. Country Report of Nepal. DDG, Department of Livestock Services.
- 132** FAO (2010). Dairy Sector Study of Nepal.
<ftp://ftp.fao.org/TC/CPF/Country%20NMTPF/Nepal/thematic%20studies/Dairy.pdf>
- 133** IRIN Asia Analysis: Why livestock matters in Nepal.
<http://www.irinnews.org/report/98463/analysis-why-livestock-matters-in-nepal>
- 134** Dr Sitalkaji Shrestha. *Prescription ki adhikar* (Newspaper article in Nepali).
- 135** Stoufer Karen (2002). Village Animal Health Workers in Nepal: the pros and cons of developing a National Skills Test.
<http://sites.tufts.edu/capeipst/files/2011/03/Stoufer-et-al-PLA-Notes-45.pdf>
- 136** Secondary Education Curriculum (2013, Technical Stream), Animal Science (Grade 9 and 10). CTEVT.
- 137** Curriculum for Technical School Leaving Certificate (2010) in Livestock Production/Animal Health (Post SLC Program and Post SLC Program). CTEVT.
- 138** Brochure (2068) of Nepal Para-veterinary and Livestock Association.

ANNEX 2: Review of Minor Veterinary Practice Notifications in India

Minor Veterinary Practice notifications published by states are meant for long-term trained individual para-vets passing out from State-sponsored/recognized institutes or training centres only. Table 8 below shows what such para-vets can do. It should be noted that, as per section 30 of the Indian Veterinary Council Act, all the notified minor veterinary services are required to be carried out under the supervision of registered veterinarians only.

Table nine: MINOR VETERINARY NOTIFICATION IN INDIA FOR LONG-TERM TRAINED PARA-VETS

Service area	Assam	Jharkhand	Odisha	Nagaland	West Bengal
Prescription of drugs and vaccines	Not allowed	Not allowed	Not allowed	Not allowed	Not allowed
Administration of drugs	Yes (only oral, external application, SC and IM injection)	Yes (any kind of administration)	There is mention of only administration of drugs. But can be interpreted as all kinds of administration	(Only oral, external application, SC and IM injection. Also mentions intra-mammary infusion and usage of Lugo's paint for induction of heat)	Yes (can be interpreted as all kinds of administration)
Administration of vaccines	All kinds of vaccination	All kinds of vaccination	All kinds of vaccination	All kinds of vaccination	All kinds of vaccination
Castration/ de-horning/ de-budding/ de-beaking	Only castration (Using castrator)	Yes for all (Castration by closed method)	Only castration (Using castrator) No specific description of First Aid.	Can be interpreted as 'yes for all'. Also includes branding, tattooing, tooth rasping, etc.	Yes for all
First Aid/ Emergency	Horn injury, prolapse of uterus, tympani, impaction, diarrhea, dysentery, any external bleeding, burn, etc.	Horn injury, tympani, indigestion, anorexia. Any external bleeding, burn, lightning strike, sunstroke, frostbite, electric shock, poisoning, snakebite, drowning, docking, dressing of naval cord, etc.	Yes	Horn injury, Prolapse of uterus, tympani, impaction, diarrhea, stomatitis, dysentery, any external bleeding, burn, electrocution, poisoning, accidents, natural calamities, etc.	Tympani, indigestion, anorexia, lightning strike, sunstroke, frostbite, electric shock, poisoning, snakebite, drowning, docking, prolapse of uterus, retention of placenta, simple fracture, natural calamities, accidents, etc.

Service area	Assam	Jharkhand	Odisha	Nagaland	West Bengal
Artificial Insemination	Yes	Yes (subject to limitation of deposition of frozen semen only)	Yes	Yes	Yes (but it is removed from original Minor Veterinary Notification permitting AI without the supervision of veterinarian)
Pregnancy diagnosis	Not mentioned	Not mentioned	Yes (only in non-clinical cases, without manipulation of ovary)	Not mentioned	
Minor Surgeries	Superficial wounds, abscesses	Wounds, abscess and hematoma	Dressing of wounds, etc.	Wounds, abscesses, fistula and eruptions	Superficial wounds, abscesses
Collection of samples for laboratory	Not mentioned	Blood, serum, urine, faeces, semen, milk	Not mentioned	Can be interpreted as blood, serum, urine, faeces, semen, milk	Blood, serum, urine, faeces, semen, milk

Note: the Government of Bihar has not yet issued any MVS notifications.

ANNEX 3: List of People Interviewed

NEPAL

Acharyya Tek Nath, DLSO, Banke District, Nepal

Bhandari Ram Janak, DLSO, Banke District, Nepal

Bhattarai Shiva, Department of Drug Administration, Nepal

Bhusal Lok Raj, Nepal Para-veterinary and Livestock Association

Budha Purna Bahadur, Nepal Para-veterinary and Livestock Association

Chaulagain Sabal, GALVmed, Nepal

Chetry Chatra Bahadur, SAMARTH-NMDP Pig Sub sector project, Nepal

Dhakal Ishwari Prasad, Institute of Agriculture and Animal Science, Rampur, Chitwan, Nepal

Dhakal Narayan Prasad, Department of Drug Administration, Nepal

Durga K C, Heifer International, Nepalganj, Nepal

Ghimire Narayan Prasad, Nepal Veterinary Council

Home Bahadur B K, Agro-vet 'National Veterinary Centre', Nepalganj, Nepal

Jha Vijay Kant, Directorate of Animal Health, Department of Livestock Services, Nepal

Kshetry Pan Bahadur, Department of Drug Administration, Nepal

Lamichhane Ram Hari, Council of Technical Education and Vocational Training, Nepal

Mahato Shubh N, Heifer International, Nepal

Manandhar Salina, Directorate of Animal Health, Department of Livestock Services, Nepal

Panthi Sandesh, Department of Drug Administration, Nepal

Paudel Radha, Action Works, Nepal

Ratala Dhan Raj, Nepal Veterinary Council

Sah Jibacha, Veterinary Health Research and Training Centre Pvt Ltd, Chitwan, Nepal

Shakya Harsha Ratna, Group of Seven Seas, Nepal

Shrestha Kaji Sital, Nepal Veterinary Association

Shrestha Ninu, Department of Drug Administration, Nepal

Singh D K, Veterinary College, Chitwan, Nepal

Thapaliya Sharda, Veterinary College, Chitwan, Nepal

Upddhaya Mukul, Nepal Veterinary Association

Yadav Sharad Singh, Nepal Veterinary Association

BANGLADESH

Alam Badrul A K M, Grameen Motsho O Pashusampad Foundation, Bangladesh

Alam Forhadul, Department of Livestock Services, Bangladesh

Alam Shai Golam, Bangladesh Agricultural University, Mymensingh, Bangladesh

Backmann Felix, Helvetas Swiss Intercooperation, Bangladesh

Bari Ehsanul, Grameen Motsho O Pashusampad Foundation, Bangladesh

Biswas Chandra Gopal, Bangladesh Veterinary Council, Bangladesh

Chakma Zantu, Solidaridad Network, Bangladesh

Chowdhury Hasan Ahmmed, FAO Food Safety Program, Bangladesh

BANGLADESH

Chowdhury S D, Bangladesh Agricultural Univerisity, Mymensingh, Bangladesh

Das Bidhan Chandra, Central Disease Diagnostic Lab, Bangladesh

Das Priya Mohan, Bangladesh Agricultural Univerisity, Mymensingh, Bangladesh

Haq Mahmudul, Trade Services International, Bangladesh

Haque Ainul, Livestock Research Institute, Bangladesh

Haque Enamul, Kazi Farms Group

Hussain Abu Muhammed, Heifer International, Bangladesh

Islam Rafiqul, Bangladesh Agricultural Univerisity, Mymensingh, Bangladesh

Kabir Humayun, Kazi Farms Group

Karim Rezaul Syed, Bengal Overseas Ltd, Bangladesh

Khan Hossain Emran, Bangladesh Veterinary Council, Bangladesh

Kibria Golam, Directorate General of Drug Administration, Bangladesh

Rahman Bahanur, Bangladesh Agricultural Univerisity, Mymensingh, Bangladesh

Rahman Siddiqur, Heifer International

Rahman Tanveer, Bangladesh Agricultural Univerisity, Mymensingh, Bangladesh

Saikia L N, Kazi Farms Group of Companies, Bangladesh

Sobhan Abdus, Livestock Research Institute, Bangladesh

Uraguchi Bashaw Zenebe, Helvetas Swiss Intercooperation, Samriddhi Project

INDIA

National

Bambal R G, Department of Animal Husbandry and Dairying & Fisheries, Government of India

Bhaumik Anup, Veterinary Council of India

Mohanty Narayan, Veterinary Council of India

Negi A B, Department of Animal Husbandry and Dairying, Government of India

Pasrija Satish, Indian Federation of Animal Health Companies, Mumbai

Verma Jeetendra, Indian Federation of Animal Health Companies, Mumbai

Verma Rishendra, Indian Association for the Advancement of Veterinary Research

State of Assam

Ali Rajib, Department of Animal Husbandry and Veterinary, Assam

Bordoloi Gautam, Assam Veterinary Council, Guwahati

Deka Nayanjit, North East Veterinarian, Guwahati, Assam

Dutta Sasanka S, J B F (India) Trust, Guwahati

Dutta Smriti Rani, J B F (India) Trust, Guwahati

Hazarika Hiralal, North East Regional Disease Diagnostic Laboratory, Guwahati

Sarma Amiya, Rashtriya Gramin Vikas Nidhi (RGVN)

Sarma Pradip, Centre for Rural Development (CRD)

Sharma Paresh, North East Regional Disease Diagnostic Laboratory, Guwahati

State of Bihar

Kumar Ajay, Bihar Rural Livelihoods Promotion Society, Bihar

Kumar Pankaj, Bihar Veterinary College

Manubansh B S, Former MD Barauni Dairy, Bihar

Prasad Brind, J K Trust Gram Vikas Yojana, Bihar

Rana U V S, Zygot Pvt Ltd

Singh Biresh Prasad, Ex, Bihar Livestock Development Agency

Singh K K, BAIF Development Research Foundation, Bihar Operation

Singh Rakesh Kumar, Bihar Rural Livelihoods Promotion Society, Bihar

Sinha Dharmendra, Institute of Animal Health and Production, Bihar

Sinha Hemant Kumar, Directorate of Health Services, Bihar

State of West Bengal

Bera Sahadev, All Bengal Veterinary Pharmacist Association, Kolkata

Bose Subhas, Animal Resource Development Department, Kolkata

Chatta Singh Tejvinder, Indian Trading Bureau Pvt Ltd. Kolkata

Das Dipak Chandra, Animal Husbandry and Veterinary Employees Association, Kolkata

Das Satinatha, Agriculture Training Center, Ramakrishna Mission Ashrama, Narendrapur

Datta Gurucharan, West Bengal Veterinary Alumni Association, Kolkata

Ghosh C M, Directorate of Drugs Control, West Bengal, Kolkata

Mandal Tapan Kumar, West Bengal University of Animal and Fishery Science, Kolkata

Mukhopadhyay Alope, West Bengal Veterinary Council, Kolkata

Mukhopadhyay Dibakar, Animal Resource Development Department, Kolkata

Nandi P R, West Bengal University of Animal and Fishery Science, Kolkata

Panda Nisith, Animal Resource Development Department, Kolkata

Pandey Litan, Association of Livesotck Development Assistants, Kolkata

Roy Bidyut Baran, Institute of Animal Health and Veterinary Biologicals, Kolkata

Sinha Nitya Narayan, Directorate of Drugs Control, West Bengal, Kolkata

Tewari Monoj Kumar, West Bengal Veterinary Council, Kolkata

State of Odisha

Das Kornel Das, GALVmed, Odisha

Kale S K, National Bank for Agriculture and Rural Development, Odisha

Kumar Puneet, National Bank for Agriculture and Rural Development, Odisha

Mishra Bichitra Kumar, National Bank for Agriculture and Rural Development, Odisha

Mishra Sanat, Ex. Orisha Livestock Resource Development Society

Mohapatra R K, Society for Management of Information, Learning and Extension (SMILE), Bhubaneswar

Patnaik K V K, Orissa Livestock Resource Development Society

Patro Umasankar, Directorate of Animal Husbandry & Veterinary Services, Odisha

Pattnayak Ansuman, Orissa University of Agriculture and Technology

Sahu Balaram, Odisha Veterinary Council

Tripathy Gopal, Veterinary Officers Training Institute, Odhisha

State of Jharkhand

Das Pankaj, National Smallholder Poultry Development Trust, Jharkhand

Orao Jaganath, Birsa Agricultural University, Jharkhand

Pathak Sobha Kant, Institute of Animal Health and Production, Jharkhand

Roy Radhe Shyam, Department of Veterinary and Animal Husbandry, Jharkhand

Tirky R K, Veterinary Council, Jharkhand

State of Nagaland

Ijung, Department of Animal Husbandry, Kohima, Nagaland

Jamir Sungkum, All-Nagaland DOC Traders Association

Khala I P, Nagaland Veterinary Council

Krose Miatho, Nationalist Congress Party, Nagaland

Lotha R F, Department of Health and Family Welfare, Nagaland

Lyangmei Samuel, ANMA Integrated Development Association, Don Bosco, Nagaland

Ozukum Chuba, Naga Hoho, Nagaland

Pongener S C, Nagaland Development Outreach and Nagaland Pig Farmers' Association

Rusta Catherine, School of Agricultural Sciences and Rural Development, Nagaland University

Rusta V, Nagaland Environmental Protection and Economic Development (NEPED)

Sekhose Neibou K, Department of Rural Development, Nagaland

Sema Devid, Nagaland Veterinary Council

Sema Phuheto, Nagaland Veterinary Field Assistants' Association, Dimapur, Nagaland

Sharma Birendra, Nagaland Drug Dealers' Association

Singhal Niraj, Dipak Medical Store, Dimapur, Nagaland

Soba Temjen, Veterinary Field Assistant Training Institute, Nagaland

Temsu, Department of Animal Husbandry, Kohima, Nagaland

Timothy, Department of Animal Husbandry, Kohima, Nagaland

Waling S A, Department of Animal Husbandry, Kohima, Nagaland

INTERNATIONAL AGENCIES

Bisht Khadak Singh, RSU-ECTAD for SAARC countries, FAO

Oberoi Mohinder, RSU-ECTAD for SAARC countries, FAO

Parajuli Baikuntha, RSU-ECTAD for SAARC countries, FAO

ANNEX 4: Schedule

Name of the Country	
Address of the location of interview	
Date	
Name of the interviewee	
Address and phone number/email	
Job profile of the interviewee	

Note: Choice and chronology of putting questions will depend on the judgement of the interviewer, who will also take into account the job profile of the interviewee. Please collect the job profile of the interviewee beforehand and prepare for relevant question(s). The interviewer should carry a list of relevant acts/notifications specific to the Country/State and add the names of unknown acts/ordinances/notifications/etc. as the interviewee refers to them during the course of discussion. Please note actual practice on the ground whilst referring to any rules and regulations. Use extra sheets where needed. In all circumstances, an attempt should be made to collect available copies of notifications/administrative orders/guidelines/etc.

- 1** In the context of ensuring 'last-mile' service delivery to poor farmers, who else besides the veterinarian is allowed to provide livestock health services as per law in your state/country? Note if separate permission is required to sale vaccines and point of care diagnostics: (in details)
- 2** How do you interpret minor Veterinary services in the context of State/National Veterinary Council Act/Notifications etc.?
- 3** Is there any State/local government notification that defines a registered practitioner in the context of drug and cosmetics act in your state/country? Who can distribute and sell veterinary drugs, vaccines and diagnostics?
- 4** Can you highlight important guideline/notification pertaining to storage, transport and sale of veterinary vaccines, medicines or diagnostics?
- 5** How do you define a para-vet? In your State/Country, is the legal status of a community animal health worker (CAHW) the same as that of a para-vet, or they are different? What are the other categories (with common name) of authorized animal health workers in your State/Country?
 - a** Who conducts training for the para-vet: Government/NGOs/Individuals/Private Companies ?
 - b** Is it a single-period training or multiple-period training? (Single/Multiple)
 - c** Any facility for re-training or continuous training? (Yes/No). Is this mandatory? (Yes/No)
 - d** Are there uniform training protocols or syllabus across the State/Country? (Yes/No)
 - e** In the case of NGOs providing training, who does the monitoring and certification? (Department of Veterinary/Vocational training council/NGOs themselves/Any other – please specify.)
 - f** Any certificate issued after training? (Yes/No)
 - g** Is there any State or national accreditation body for para-vets? (No/Yes – Specify)
 - h** Is any license/ID given to the para-vet? (Yes/No)
 - i** Is it mandatory that a para-vet should be supervised by a veterinarian? (Yes/No)
 - j** If yes, how is supervision of para-vet by the veterinarian ensured?
 - k** Are there any criteria/norms for the private sector to employ para-vets?

Note: Conflict between veterinarians and Para-vets (if any); e.g., there is an ongoing Supreme Court case in India.

- 6 With reference to Acts related to prevention and control of infectious and contagious disease in animals, who are the competent authorities for the following assigned jobs?
 - a Issuing of certificates of vaccination.
 - b Permission for import of vaccines for scheduled/notifiable diseases.
 - c Approval for introduction of a new vaccine in a defined area/zone.
 - d Approval of private concerns for vaccination services.
 - e Approval for use of a point-of-care diagnostic kit by a private concern.
 - f Fit-for-slaughter certification.
- 7 Who is authorised as per law to inspect facilities for storing/dispensing veterinary medicines and vaccines?
- 8 In India, as per Veterinary Council of India notification, veterinarians should not run an open shop for the sale of medicines for dispensing prescriptions by doctors other than himself. How do you interpret this in your State/Country?
- 9 Is there any notification under a State Pharmacy Act (or any such Act) regarding the dispensing of veterinary medicines and vaccines? Can you highlight any policy issues being raised by the local association of pharmacists in this regard?
- 10 Can you elaborate on any specific notification to govern the distribution/sale of veterinary medicines/vaccines or diagnostics by NGOs and/or private individuals? Highlight the situation for "For profit" (Taking commissions from distributors) or "non-profit" (For voluntary camps etc.) actions.
- 11 Who in the local government context is authorized to check the quality of imported drugs, vaccines and diagnostics? Who permits their use within local jurisdiction? (Indicate guidelines, if any)
- 12 How is the Government collaborating with private organizations in producing/procuring veterinary biologicals? Any policy issues that you want to highlight?
- 13 In the context of the decentralization of power, what is the influence and interest of local self-government in your State/Country (e.g., Panchayat in India) in livestock health service delivery? Is it mandatory for private service providers (NGOs/companies/Individuals) to register with local self-governments?
- 14 Can you highlight any successful Government collaboration with any private/autonomous organization in the field of livestock health service delivery? Do you know any scheme to support the NGOs/Farmers' Organizations in providing/intending to provide veterinary services? Is there any existing replicable model or roadmap to ensure private participation?
- 15 What do you think are the difficulties in having private sector collaboration? How best can we ensure delivery of drugs, vaccines and point-of-care diagnostics to farmers in rural areas? Which existing distribution channels do you think are efficient in your State/Country?

Contact GALVmed:

UK Office:

Doherty Building, Pentlands Science Park, Bush Loan, Edinburgh EH26 0PZ, UK

Tel: **+44 (0)131 445 6264**

Fax: **+44 (0)131 445 6222**

Email: **info@galvmed.org**

Africa Office:

4th Floor Wing C, Suite B, Galana Plaza, Galana Road, Nairobi

Tel: **+254 20 4231 308**

Email: **info@galvmed.org**

S. Asia Office:

Unit 118 & 120 B, Splendor Forum, Plot No 3, Jasola District Centre, Jasola, New Delhi 110025

Tel: **+91 1140601170**

Email: **info@galvmed.org**

www.galvmed.org



www.facebook.com/GALVmed



www.twitter.com/GALVmed

Currently funded by:

BILL & MELINDA
GATES *foundation*



This material has been funded by UK aid from the UK government; however, the views expressed do not necessarily reflect the UK government's official policies. This publication is based on research funded in part by the Bill & Melinda Gates Foundation. The findings and conclusions contained within are those of the authors and do not necessarily reflect positions or policies of the Bill & Melinda Gates Foundation

GALVmed is a registered charity and not-for-profit global alliance of public, private and government partners.

Registered Charity in Scotland: SC039197 Registered Charity in England and Wales: 1115606

Registered Name: Global Alliance for Livestock Veterinary Medicines.

Registered in England and Wales No. 5393391, limited by guarantee

Registered Office: Maclay Murray & Spens, One London Wall, London EC2Y 5AB, UK



Protecting Livestock – Improving Human Lives