

Veterinary Education in India: Evolution and Future Perspectives

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Abstract: *Veterinary education in India has undergone a profound transformation, evolving from its ancient roots in the Mauryan period to its institutionalization during the colonial era and expansion within the framework of agricultural universities after Independence. Historically, veterinary training was closely tied to animal welfare and rural livelihoods, but over time it has acquired a broader mandate encompassing food security, public health, and One Health. The post-independence decades witnessed rapid establishment of veterinary colleges, primarily under state agricultural universities, while regulatory oversight was consolidated under the Indian Veterinary Council Act, 1984. Despite this progress, persistent challenges remain in terms of uneven geographic distribution of institutions, shortages in faculty and research capacity, limited experiential learning opportunities, and the growing demand for veterinarians in emerging areas such as biotechnology, food safety, and climate-resilient livestock systems. The National Education Policy (NEP) 2020 presents an opportunity to re-envision veterinary education by fostering multidisciplinary integration, outcome-based curricula, professional standard-setting bodies, and strengthened accreditation mechanisms. This paper traces the historical trajectory of veterinary education in India, critically reviews its current status, and explores future pathways for aligning veterinary training with national priorities in animal health, rural development, and global One Health frameworks.*

Keywords: Veterinary education, India, NEP 2020, One Health, regulation, accreditation

1. Introduction

Veterinary education in India is undergoing a profound transformation. From its ancient roots in the Mauryan period to its formalization under colonial governance and its expansion under agricultural universities post-independence, the field is now poised to align with the futuristic vision of the National Education Policy (NEP) 2020. As the country shifts toward a multidisciplinary, technology-integrated, and globally benchmarked higher education ecosystem, veterinary science must not only keep pace but also reclaim its pivotal role in One Health, food safety, and rural development.

A Glance at the Historical Evolution

1. Ancient Origins: Ashoka the Great and Animal Welfare

Veterinary practice has deep roots in Indian civilization. Under Emperor Ashoka (3rd century BC), one of the earliest documented efforts toward institutionalized animal care emerged. Edicts of Ashoka reference the establishment of veterinary hospitals, planting of medicinal herbs for animals, and welfare-focused public policies — making India among the first in the world to recognize animal health as a state responsibility. His commitment to **Dhamma (righteousness)** extended to all living beings, advocating for the humane treatment of animals and the establishment of medical care for both humans and animals.

One of Ashoka's most notable contributions was the creation of **veterinary hospitals and animal shelters**, known as "Ashwapati" and "Gavapati", indicating institutionalized care for horses and cattle. His **14 Major Rock Edicts**, particularly Edict V and VII, explicitly prohibit animal sacrifices and promote the appointment of officials (such as Dhamma Mahamatras) to oversee animal welfare and medicinal plant cultivation for treatment. These acts are

considered among the earliest known examples of state-sponsored animal care systems in human history.

Ashoka's policies demonstrated an integrated approach to human and animal welfare, laying the philosophical foundation for the concept of **One Health**, which recognizes the interconnectedness of human, animal, and environmental well-being.

Thus, India's ancient veterinary tradition was:

- State-sponsored (e.g., Ashoka's edicts)
- Scripturally embedded (e.g., Shalihotra Samhita)
- Scientifically detailed (covering diagnostics, treatment, and surgery)
- Ethically grounded (based on Ahimsa and dharma)

This long-standing tradition was disrupted during colonial rule but laid the cultural and intellectual foundation for India's modern veterinary system.

Ethical and Philosophical Foundations: Other classical texts also mention animal medicine in various forms:

- Charaka Samhita (circa 600 BCE): Focused on human Ayurveda but noted diseases transmissible from animals.
- Sushruta Samhita (circa 500 BCE): Contains sections on surgical instruments and procedures applicable to animals.
- Palakapya's Gaja Shastra: Treatise dedicated to elephant health, breeding, training, and treatment.

Mentions in Ancient Indian Medical Literature: The Shalihotra Samhita, attributed to Shalihotra, a sage-physician believed to have lived around 2500–3000 years ago, is considered one of the earliest treatises on veterinary science.

- It contains over 12,000 verses, primarily on equine medicine.

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- Topics include anatomy, physiology, diseases, surgical procedures, and treatment of horses.
- Later versions included bovine and elephant medicine, forming the foundation for Ayurvedic veterinary practice.

Shalihotra is often referred to as the “Father of Indian Veterinary Science”.

Shalihotra Samhita – The First Veterinary Text

One of the earliest state-sponsored initiatives for animal healthcare is attributed to Emperor Ashoka the Great, who ruled the Mauryan Empire around 268–232 BCE. His Rock and Pillar Edicts, inscribed across the Indian subcontinent, reflect his deep concern for the well-being of animals.

- Edict II and V specifically mention provisions for medicinal plants for both humans and animals, and the establishment of veterinary hospitals (Pashu Arogya Shalas).
- Ashoka mandated the appointment of veterinary physicians (vaidyas) and promoted animal protection as a matter of dharma (moral duty).

“Everywhere in the dominions of His Majesty the King, and likewise among the people beyond the borders, the medical treatment of man and beast was promoted.” — Rock Edict II (translated by Romila Thapar, 1997).

Veterinary Care under Emperor Ashoka (3rd Century BC)

India’s tradition of veterinary science is among the most ancient in the world. Rooted in the principles of compassion, health, and ethical governance, the care of animals was systematized long before the advent of Western medicine. The foundation of veterinary education in India is intrinsically linked with its civilizational ethos, scriptural knowledge, and statecraft.

2. Colonial Period: Western Veterinary Medicine Arrives

Veterinary science in India traces its roots back to ancient times, with evidence of animal care practices evident throughout history. During the medieval period, animal husbandry also received due attention.

The advent of British colonial rule in India marked a significant turning point in the history of veterinary science. Prior to the 19th century, animal healthcare was largely based on indigenous knowledge systems such as Ayurveda, folk practices, and community-based animal care. However, these traditional systems lacked formal institutional structures or scientific standardization.

As the colonial administration expanded across the Indian subcontinent, livestock diseases such as Rinderpest (Cattle Plague), Foot and Mouth Disease, Anthrax, Haemorrhagic Septicaemia, and Blackquarter became widespread. These epizootics severely impacted agricultural productivity, military logistics, and rural livelihoods—prompting the British to take systemic action.

In response, the Indian Cattle Plague Commission (1869) was formed, which strongly recommended the establishment of scientific veterinary institutions. Consequently, the Imperial Bacteriological Laboratory was set up at Poona in 1890, later relocated to Mukteshwar in 1893, and a regional branch was created at Izatnagar in 1913. These institutions became central hubs for research, vaccine production, and training of veterinary professionals in Western medicine.

Alongside, formal veterinary education was introduced with the establishment of the first veterinary colleges:

1. Lahore Veterinary College (1882) – The first formal veterinary college in Asia, established under the Punjab Government, with strong military support.
2. Bombay Veterinary College (1886) – Established to train veterinary inspectors for civil and military purposes, focusing on tropical diseases.
3. Calcutta Veterinary College (1893) – Focused on equine diseases and diseases prevalent in Bengal.
4. Madras Veterinary College (1903) – Later became a model for veterinary instruction in southern India.

These institutions largely followed the British curriculum, emphasizing:

- Anatomy and physiology
- Veterinary hygiene and sanitation
- Epidemiology and control of epizootics
- Inspection of meat and dairy hygiene

Disease Control & Colonial Priorities:

- Rinderpest, Surra, and Foot-and-Mouth Disease were major threats.
- Veterinary services were extended to rural areas through veterinary dispensaries and mobile units.

Profession and Administration:

- The Indian Civil Veterinary Department (established in 1881) managed veterinary services.
- Emphasis was on inspection and control, with limited research or extension services.

Legacy:

- The colonial model introduced formal scientific training, but it was primarily utilitarian and militaristic, with limited integration into agricultural systems or rural livelihoods.
- The period laid the groundwork for institutionalized veterinary education, but was narrow in vision and lacked public health integration.

The focus during this period was clinical training, disease control, and productivity enhancement. The curricula were primarily based on British veterinary schools and followed a Eurocentric curriculum that prioritized empirical science, bacteriology, and preventive medicine. The use of vaccination, first introduced during this period, revolutionized disease control in Indian livestock populations. By the early 20th century, India was producing

and administering hundreds of thousands of vaccine doses annually.

The colonial period thus institutionalized veterinary medicine in India and laid the groundwork for a formal veterinary education system. However, it also resulted in the marginalization of indigenous knowledge systems and a centralization of veterinary services aligned with colonial economic interests, such as protecting draught animals for the military and agriculture.

3. Post-Independence Era and the Land Grant Influence

After independence in 1947, India viewed veterinary science not only as an animal health service but as a vital component of agricultural development, rural economy, and nation-building. Veterinary education became a national priority to address issues of livestock productivity, zoonoses, and food security.

Structural Shift: Veterinary education was integrated into the Land Grant system inspired by U.S. models, leading to the establishment of State Agricultural Universities (SAUs) with constituent veterinary colleges enabling:

- A triad of teaching, research, and extension;
- Field-based learning through livestock farms and ambulatory clinics;
- Linked veterinary sciences with agriculture, dairying, and animal husbandry;
- Supported rural development and livestock productivity.

Curricular Expansion – Subjects diversified beyond clinical medicine to include:

- Animal reproduction and genetics;
- Livestock production management;
- Veterinary public health;
- Animal nutrition and biotechnology;
- Emphasis on preventive medicine and rural veterinary service delivery.

Training, Manpower, and Rural Impact:

- Veterinary education trained professionals for animal disease eradication programs (e.g., Rinderpest, FMD);
- Significant contributions were made to White Revolution, poultry expansion, and rural entrepreneurship.

Institutional Challenges:

- Despite expansion, infrastructure, faculty quality, and inter-college uniformity remained inconsistent;
- Rural service remained underfunded; the profession suffered from underutilization and migration of skilled vets to administrative or foreign roles.

However, disparities in infrastructure and academic capacity persisted across institutions. Consequently, many States Veterinary Universities has been established under their respective state Acts, mostly by extracting the veterinary faculty from the existing SAU's. Today we have **65 veterinary colleges** under 16 Veterinary universities and **12**

colleges under 10 Agricultural Universities and **06 colleges** under 06 General/Central universities.

Regulation of Veterinary Education and Practice: Role of Veterinary Council of India (VCI)

The regulation of veterinary education and professional practice in India is governed by a statutory framework framed through the Indian Veterinary Council Act, 1984. This Act led to the creation of the Veterinary Council of India (VCI)—a statutory body under the Ministry of Fisheries, Animal Husbandry & Dairying, Government of India—with the objective to prescribe Minimum Standards of Veterinary Education (MSVE) Regulations, regulate recognition of qualifications, and standardize registration of veterinary professionals across states and ensuring ethical and competent veterinary practice across the country. This provided a uniform framework, through centralization, limited innovation and responsiveness to emerging challenges.

1. Composition of VCI:

- five members to be nominated by the Central Government from amongst Directors of Animal Husbandry (by whatever name called) of those States to which this Act extends;
- four members to be nominated by the Central Government from amongst the heads of veterinary institutions in the States to which this Act extends;
- one member to be nominated by the Indian Council of Agricultural Research;
- the Animal Husbandry Commissioner, Government of India, ex officio;
- one member to be nominated by the Central Government to represent the Ministry of the Central Government dealing with animal husbandry;
- one member to be nominated by the Indian Veterinary Association;
- eleven members to be elected from amongst themselves by persons enrolled in the Indian veterinary practitioners register;
- one member to be nominated by the Central Government from amongst the Presidents of the State Veterinary Councils of those States to which this Act extends;
- one member to be nominated by the Central Government from amongst the Presidents of the State Veterinary Associations of those States to which this Act extends;
- Secretary, Veterinary Council of India, ex officio.

Thus, all decisions on fulfilment of minimum standards and made only by veterinary professionals, represented by academicians (VC), administrators (Directors of State AH Deptt.) and field veterinarians. Based on the recommendations of VCI, DAHD, GoI notifies the recognition or de-recognition of a veterinary qualification.

2. Statutory Mandate and Structure: The VCI is mandated by the Indian Veterinary Council Act, 1984 to:

- Maintain the Indian Veterinary Practitioners' Register by

registering veterinary graduates eligible to practice.

- Prescribe minimum standards of veterinary education in India through the Minimum Standards of Veterinary Education (MSVE) Regulations.
- Grant recognition to veterinary qualifications awarded by Indian and foreign institutions.
- Oversee curriculum, intake capacity, faculty strength, infrastructure, and hospital facilities in veterinary colleges.
- Inspect and monitor veterinary colleges and recommend permissions for new colleges and programs to the Central Government.

3.Regulation of Veterinary Education: The MSVE Regulations formulated by VCI outline the curriculum structure for the Bachelor of Veterinary Science and Animal Husbandry (B.V.Sc. & A.H.) degree, including:

- Credit-based course structure with professional years.
- Practical and clinical exposure.
- Compulsory internship training
- Emphasis on One Health, animal welfare, and public health.

4.VCI's oversight extends to evaluating institutions for statutory permissions such as:

- Letter of Intent (LOI)
- Letter of Permission (LOP)
- Final Recognition after compliance

5.Regulation of Veterinary Practice

Only graduates registered under the VCI Act are legally allowed to practice veterinary medicine in India. The Act empowers State Veterinary Councils (SVCs) to maintain state registers and enforce professional standards under the guidance of VCI. Veterinarians are bound by a Code of Professional Ethics, issued by VCI, governing clinical practice, conduct, and continuing professional development.

6.Significance and Future Direction

VCI plays a crucial role in aligning veterinary education with national priorities such as animal health, livestock productivity, zoonotic disease control, and rural development. However, with NEP 2020, the proposed transformation of VCI into a Professional Standard-Setting Body (PSSB) under the Higher Education Commission of India (HECI) may separate accreditation, funding, and regulation functions.

NEP 2020: A Transformative Opportunity

The National Education Policy 2020 introduces a radical departure from previous policy paradigms by proposing multidisciplinary institutions, flexible curricula, technology integration, entry – exit policy, autonomy and accountability, and a unified regulatory structure through the Higher Education Commission of India (HECI). For veterinary education, this offers an opportunity to evolve beyond clinical training into a more interdisciplinary, community-oriented, and globally relevant discipline.

However, the existing IVC Act'84 needs to be drastically amended before the recommendations under NEP 2020 could be adopted for veterinary education. Moreover, the policy has excluded medical and legal profession outside the ambit of the policy. Veterinary science being more aligned to medical profession, including AYUSH, it has strongly been advocated to implement the changes in NEP to the extent feasible and appropriate under the IVC Act'84.

Proposed Realignment of Governance and Regulation under NEP 2020.

1.VCI to PSSB under GEC

Under NEP 2020, statutory councils like VCI will become Professional Standard Setting Bodies (PSSBs) under the General Education Council (GEC). Their new mandate will focus on developing academic standards and competencies, setting curricular frameworks, and advising on learning outcomes and assessment norms. This academic-centric role replaces the traditional inspection-based regulatory control.

2.Accreditation under NAC

All institutional accreditation will shift to the National Accreditation Council (NAC), which will use meta-accreditation frameworks. Veterinary institutions must be evaluated by veterinary-competent panels and discipline-sensitive benchmarks, co-developed by VCI as PSSB.

3.NHERC, HEGC, and Institutional Autonomy

Veterinary colleges will interface with NHERC for compliance and regulatory oversight, HEGC for funding and grants, and new categories of institutions like Autonomous Degree- Granting Colleges, Teaching Universities, and Research Universities.

4.The Rise of One Health and Interdisciplinarity

NEP 2020's multidisciplinary ethos aligns naturally with the One Health approach — recognizing the interconnectedness of human, animal, and environmental health. This requires cross-sectoral training with public health, environmental sciences, and biomedicine; collaborations in zoonotic disease surveillance, AMR mitigation, and climate change adaptation; and emphasis on inter-professional education (IPE) and team-based learning. Veterinary graduates will be expected to work in diverse roles — from rural extension and biotech startups to national health systems and international policy platforms.

5.VCI within the HECI Framework – Existing Scope and Emerging Challenges as a Professional Standard-Setting Body (PSSB):

The Veterinary Council of India (VCI), established under the Indian Veterinary Council Act, 1984, currently operates as the apex statutory body overseeing:

- Recognition of veterinary qualifications (Indian and foreign)
- Maintenance of professional registers

- Enforcement of standards in veterinary education
- Periodic inspection of veterinary colleges
- Development and implementation of the Minimum Standards of Veterinary Education (MSVE) Regulations
- Professional ethics and continuing education of veterinarians

This centralized structure integrates both regulatory (practice and licensure) and academic standard-setting (curriculum, institutions) functions.

6. Statutory recognition of qualification and accreditation

1. Statutory Recognition of Qualification: It is a **legal approval** granted by a **statutory or regulatory body** established under an Act of Parliament or State Legislature, declaring that a specific qualification meets the required legal and professional standards to be considered **valid and acceptable for professional practice**.

Purpose:

- Ensures that a qualification is **legally valid** for professional registration, employment, and practice.
- Provides eligibility to be listed in **professional registers** (e.g., veterinary, medical, legal).

Key Features:

- Granted by a **statutory authority** (e.g., Veterinary Council of India under IVC Act).
- Based on **minimum standards** of education, curriculum, infrastructure, faculty, as well as livestock farms & clinical exposure.
- **Legally binding:** Without recognition, the qualification has **no legal standing** in that profession.
- Recognition is **permanent**, until withdrawn.

2. Accreditation: It is a quality assurance process by which an autonomous or quasi-autonomous agency evaluates whether an institution or program meets certain educational quality standards.

Purpose:

- Ensures academic quality and institutional performance.
- Promotes continuous improvement and accountability.

Key Features:

- Usually voluntary, though increasingly made mandatory for funding.
- Conducted by bodies like National Accreditation Council (NAC), NAAC, NBA, etc.
- Involves detailed review of teaching-learning processes, outcomes, governance, student support, etc.
- Accreditation is often time-bound

Hence, a veterinary college may be accredited based on its teaching quality, governance, research, and outcomes, even if its degree is already recognized by VCI.

7. Impact of Dual Agencies for Recognition and Accreditation of Veterinary Qualifications under NEP 2020

Under the current regulatory framework, the Veterinary Council of India (VCI) is mandated to recognize veterinary qualifications based on compliance with the Minimum Standards of Veterinary Education (MSVE) Regulations. However, the National Education Policy (NEP) 2020 proposes the accreditation of all higher education institutions, including veterinary colleges, by the National Accreditation Council (NAC). This dual agency approach—where recognition and accreditation are conducted by separate bodies—presents significant implications for the quality assurance ecosystem in veterinary education.

1. Divergence in Standards and Evaluation Frameworks

- VCI recognition is grounded in statutory MSVE norms focused on professional eligibility.
- NAC accreditation proposes to encompass broader quality benchmarks like faculty strength, infrastructure, research, governance, and outcomes.
- Institutions may face confusion due to overlapping or conflicting standards, leading to compliance burden and uncertainty in prioritizing requirements.

2. Risk of Fragmentation in Quality Assurance

- VCI emphasizes statutory compliance, while NAC propose to promote continuous academic quality improvement.
- Independent evaluations may result in duplicated assessments and inconsistent quality judgments.
- Lack of alignment may dilute accountability and affect public trust in veterinary qualifications.

3. Impact on Institutional Planning and Resource Allocation

- Institutions may struggle to meet both sets of expectations.
- Strategic confusion and resource strain may arise due to differing requirements for VCI and NAC.
- Inefficient planning can hinder quality improvements and disrupt long-term development.

4. Jurisdictional Ambiguity

- VCI is a statutory professional body, while NAC is envisaged as a meta-accreditor.
- Conflicts may emerge in cases where a program is accredited by NAC but not recognized by VCI, or vice versa.
- Legal clarity is essential to determine which decision holds primacy regarding professional practice rights.

5. Impact of Minimal Representation of Veterinary professionals in NAC

- Veterinary education has specific academic, clinical, and infrastructure requirements such as livestock farms, teaching hospitals, diagnostic laboratories and disease surveillance units.

- Minimal veterinary representation in NAC panels may result in inadequate evaluation of discipline-specific competencies.
- Accreditation panels dominated by generalists may apply unsuitable generic standards, compromising the relevance and accuracy of assessments.
- Stakeholders, including institutions and students, may question the credibility of NAC's accreditation decisions due to lack of domain-specific insight.
- Discrepancies between NAC's generic assessment and VCI's statutory MSVE norms could lead to conflicting outcomes.
- There is a risk of both under-accrediting competent colleges and over-accrediting institutions lacking essential veterinary infrastructure.
- To mitigate this, more veterinary professionals must be mandatorily included in peer review teams assessing veterinary institutions.

Impact of Funding of State-Established Veterinary Colleges under NEP 2020

Veterinary colleges in India are predominantly established through State Acts and are primarily funded by respective State Governments. Partial funding is done for research projects by DARE – ICAR. Now, with the National Education Policy (NEP) 2020 introducing a major overhaul of higher education governance and funding, it is essential to understand its implications for veterinary education institutions operating under state frameworks. The major changes for receiving funds under NEP 2020 are –

- Inclusive participation of veterinary institutions in Higher Education Commission of India (HECI) and its verticals, including the Higher Education Grants Council (HEGC) and National Accreditation Council (NAC).
- Performance-based funding model tied to accreditation status, academic outcomes, and research productivity.
- Introduction of National Research Foundation (NRF) for discipline-agnostic research funding.
- Emphasis on institutional autonomy and merger into multidisciplinary universities (MERUs).
- Encouragement of public-private partnerships and CSR-funded academic development.

Implications for Veterinary Colleges

- **Funding Diversification:** State-funded veterinary colleges will need to align with NEP standards to access central funds from HEGC and NRF.
- **Performance-Based Allocations:** Accreditation ratings and measurable outcomes will influence future grant allocations.
- **Risk of De-Prioritization:** In absence of veterinary-specific metrics, funding may overlook critical infrastructural or programmatic needs.
- **Shift Toward Multidisciplinary Models:** Veterinary colleges may be encouraged to integrate with broader university systems which eventually will dilute the professional standards and compromise the spirit of IVC Act'84.
- **Coordination with Central Agencies:** Proactive engagement with central policies and agencies is

necessary to leverage new funding avenues.

- **Challenges:** Certain parameters of the NEP 2020 are difficult to be met by veterinary colleges due to impediments in the IVC Act. Under the existing IVC Act'84, these changes, as may be feasible and appropriate could only be adopted. Further, veterinary education is neither agricultural nor technical programme and is rather a medical science, hence, like MBBS education, veterinary education may not be included under HECI, as has been advocated by VCI.

Transforming VCI as PSSB

The National Education Policy (NEP) 2020 mandates the establishment of Professional Standard Setting Bodies (PSSBs) for all professional education domains, including veterinary science. This calls for the transformation of the Veterinary Council of India (VCI) from a statutory regulatory body into a PSSB, focused on setting academic and professional standards, benchmarking outcomes, and enabling alignment with the broader higher education framework.

1. Implications for Transformation of VCI to PSSB:

Functional Realignment

- **From Regulator to Standard Setter:** VCI will focus on academic standards, not regulatory approvals or inspections. The later is the backbone for registration of professionals rendering them eligible to practice under the IVC Act'84.
- **Loss of Approval Authority:** Institutional recognition may shift to **NHERC** (National Higher Education Regulatory Council), diluting VCI's direct influence over veterinary colleges.

Impact on Statutory Authority

- Dual existence of **IVC Act** and **HECI Framework** can create jurisdictional confusion.
- Unless amended, the IVC Act still mandates VCI to recognize institutions and qualifications – leading to legal ambiguity.

Fragmentation of Roles

- **Accreditation by NAC:** NEP places accreditation with the **National Accreditation Council**, marginally represented by veterinary experts.
- **Funding by HEGC:** Separate vertical, disconnecting financial decisions from professional requirements.

Academic Integrity vs Regulatory Oversight

- Without regulatory power, VCI (as PSSB) might lack enforcement authority over non-compliant colleges, even if standards are set.

Professional Registration

- Registration may still be under State Veterinary Councils (as per IVC Act), but with VCI weakened as a PSSB,

coordination and standardization might suffer.

Representation within NEP Bodies

- Veterinary education is niche; limited representation in broad-based bodies like NAC, GEC, and NHERC risks under-prioritization of veterinary-specific concerns.

2. Challenges in Implementation

Legal and Statutory Conflicts

- Need for amendment or repeal of IVC Act to avoid dual authority.
- Harmonization of statutory powers with NEP framework.

Institutional Resistance

- State Veterinary Councils and universities may resist changes affecting autonomy or funding.

Capacity Building

- VCI needs upskilling and restructuring to function as a standards body rather than an approving agency.

Stakeholder Alignment

- Requires coordination between Ministry of Education, Ministry of Fisheries/Animal Husbandry, UGC, and HECI bodies, thus making it difficult for the veterinary institutions and state Veterinary Councils to comply with both IVC Act and NEP framework.

Continuity of Standards

- Transition period might lead to confusion in recognition status, inspection protocols, and student registration.

3. Key Challenges in Transitioning VCI into a PSSB

- a) Dual Statutory Status Conflict: The Indian Veterinary Council Act, 1984 is a standalone legislation. NEP 2020's proposed framework under HECI lacks clarity on how existing Acts would be aligned or amended.
- b) Fragmentation of Functions: Regulatory functions would shift to NHERC, and accreditation to NAC. Minimal veterinary representation in NAC could weaken domain-specific evaluation.
- c) Institutional Diversity and Federal Complexity: Veterinary education is administered by state agricultural/veterinary universities, leading to governance challenges in centrally defining standards.
- d) Capacity and Representation: As a PSSB, VCI would require strengthened academic and advisory capabilities and adequate representation in HECI bodies.
- e) Recognition vs. Accreditation Dichotomy: VCI currently handles both recognition and inspections. Separating accreditation to NAC may cause overlaps or jurisdictional conflicts.

Future of Veterinary Education in India

1. Harmonization of Statutory Recognition and Accreditation

Establish clear demarcation and coordination mechanisms between statutory recognition (VCI) and accreditation (National Accreditation Council - NAC) to prevent overlaps and ensure institutional accountability. Ensure representation of veterinary experts within NAC for context-specific evaluation frameworks.

2. Curriculum Revitalization for One Health and Interdisciplinary Competency

Revise the MSVE (Minimum Standards for Veterinary Education) curriculum to integrate One Health principles, climate-resilient livestock systems, wildlife health, public health, and zoonotic disease control, along with skill-based training aligned with the National Skill Qualification Framework (NSQF).

3. Institutional Development and Regional Equity

Encourage the establishment of veterinary colleges in underserved regions, especially in the North-Eastern states, tribal belts, and aspirational districts. Promote hub-and-spoke models linking veterinary colleges with Krishi Vigyan Kendras (KVKs), animal health centres, and rural innovation hubs.

4. Faculty Development and Academic Leadership

Institutionalize continuous professional development (CPD) for veterinary faculty through online/offline modes and inter-institutional collaborations. Introduce leadership development programs for Deans and academic administrators and academic institutions.

5. Digital and Simulation-Based Learning

Create and deploy centralized digital resources (e-content, virtual labs, anatomy simulators, tele-pathology) through national repositories. Leverage AI and AR/VR technologies for immersive clinical and diagnostic training.

6. Research Integration and Global Benchmarking

Align veterinary research priorities with national missions (e.g., National Livestock Mission, AMR control, Agri-Startups). Foster partnerships with global veterinary institutions for student/faculty exchange, joint research, and benchmarking of standards.

7. Private Sector Participation and PPP Models

Develop Public-Private Partnership (PPP) frameworks for veterinary education infrastructure, clinical training, and industry internships. Encourage private investment in specialized domains such as pet care, animal biotech, food safety, and veterinary pharma.

8. Reform in Governance and Regulatory Oversight

Ensure data-driven decision-making, autonomy with accountability, and performance-based institutional assessments. Promote transparency in approval processes (LoI, LoP, Recognition) through digitization and single-window mechanisms.

9. Veterinary Education as a National Strategic Priority

Position veterinary education as essential to India's food security, rural economy, and public health. Advocate for dedicated funding under central schemes like Rashtriya Gokul Mission, Animal Husbandry Infrastructure Development Fund, and World Bank-supported education projects.

2. Conclusion

The journey of veterinary education in India — from Ashoka's ethical governance to British professional models, and from post-independence agricultural integration to the future-ready One Health paradigm — has been dynamic and multidimensional. The NEP 2020 now provides a timely opportunity to reimagine the field with academic excellence, policy coherence, and global competitiveness. If veterinary institutions, policymakers, and professionals embrace this vision, India can emerge as a leader in veterinary education and One Health innovation — not just for domestic needs but as a global knowledge hub for animal health and public welfare.

The introduction of NEP 2020's regulatory architecture under NHERC, GEC, and HEGC presents significant challenges to the existing Indian Veterinary Council Act. VCI's role must be redefined without compromising the quality, autonomy, and relevance of veterinary education in India, as has been adopted for medical and legal qualifications. More representation of veterinary peer experts to NAC panels are vital.

The accreditation of veterinary education under NAC must be adapted to protect and promote professional standards. While the shift toward outcome-based, institutional accreditation is aligned with NEP 2020, veterinary education requires explicit tailoring within NAC's framework. The duality of recognition and accreditation by different agencies could lead to fragmentation unless proactively managed. More representation of veterinary peer experts to NAC panels are vital.

While veterinary colleges will remain primarily state-governed, NEP 2020 presents an opportunity to enhance their financial sustainability and academic excellence through performance-linked central funding. However, certain key changes under NEP 2020, should not be emphasized. Policy changes proposed by NEP may be the pre-requisite for funding under NEP 2020's regulatory architecture, however, for veterinary institutions the same may be limited to those as may be feasible under the IVC Act '84 for veterinary education.

The transformation of VCI as PSSB would require a major amendment in the IVC Act '84 to safeguard the statutory mandate of regulating veterinary education and practice vis-à-vis licensing to practice veterinary medicine.

Implementing the recommendations and vision set forth by the National Education Policy (NEP) 2020 requires coordinated efforts among central and state governments, statutory bodies like the Veterinary Council of India (VCI), academic institutions, and accreditation agencies.

By redefining regulatory frameworks, modernizing infrastructure, enhancing academic standards, and fostering interdisciplinary and global linkages, veterinary education can evolve into a dynamic, future-ready system. Such reforms will not only produce competent veterinary professionals but also strengthen the country's animal health systems, support rural livelihoods, and contribute to public health and food security under the **One Health** paradigm.

A strategic, inclusive, and forward-looking approach will ensure that veterinary education in India is well-equipped to meet future challenges while preserving its rich legacy and scientific rigor.

3. Summary

Veterinary education in India reflects a long and layered evolution, from its origins in ancient traditions of animal care and welfare during the Mauryan period to the introduction of Western veterinary science under colonial rule. The post-independence era marked a rapid expansion of veterinary colleges under state agricultural universities, with the Indian Veterinary Council Act, 1984 establishing a national framework for regulatory oversight and uniform minimum standards of education. These developments enabled growth in the veterinary workforce and contributed significantly to livestock health, food security, and rural livelihoods.

Despite this progress, veterinary education in India continues to face challenges. Institutions are unevenly distributed across states, with marked disparities in access to veterinary training. Faculty shortages, limited research capacity, and inadequate experiential learning opportunities have hindered quality enhancement. Meanwhile, emerging priorities such as food safety, biotechnology, climate resilience, and One Health demand new competencies and curricular reforms that the existing system struggles to deliver.

The National Education Policy (NEP) 2020 offers an opportunity to address these gaps by promoting multidisciplinary integration, outcome-based curricula, professional standard-setting bodies, and transparent accreditation systems. A future-oriented veterinary education system must embrace digital technologies, strengthen research-teaching linkages, and expand its role in One Health and rural development. This paper argues that aligning veterinary education with NEP 2020 reforms and global best practices is critical for meeting India's growing demand for veterinarians, enhancing animal health services, and ensuring sustainable contributions to food security and

public health.

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