Veterinary Education in Nepal

Gokarna GAUTAM1 and Ishwari Prasad DHAKAL1,2
1 Faculty of Animal Science, Veterinary Science and Fisheries, Agriculture and Forestry University, Nepal
2 Vice Chancellor of Agriculture and Forestry University

ABSTRACT

Nepal is an agricultural country with livestock being an integral component of the agriculture sector. Due to Nepal’s agrarian economy and livestock product-based enterprises being one of the major businesses in both rural and urban areas of the country, veterinarians presently available in the country are not sufficient to take care of the livestock and poultry health, thus, the number of institutions providing veterinary education has recently increased. The university level undergraduate degree of veterinary science in Nepal is BVSc&AH (Bachelor of Veterinary Science and Animal Husbandry). There are currently four academic institutes in Nepal that offer this bachelor degree of veterinary science. Two of these institutes are government funded, while the other two are private institutions. To date, the Nepal Veterinary Council has registered 856 veterinarians in the country. Maintenance of the quality of education that the institutes provide following the guidelines of the Nepal Veterinary Council is of great importance. For this purpose, the institutions require infrastructure development, adequate numbers of highly qualified academic staff, enhanced performances of faculty supporting staffs, upgraded laboratories and the provision of research facilities.

Key words: Veterinary education, Nepal, livestock.

1. INTRODUCTION

Nepal is a landlocked and mountainous country with a population of around 27.5 million. It is predominantly an agricultural country; about 65.6% of the Nepalese people depend on agriculture for their livelihood. The agriculture sector in Nepal contributes approximately 35% to the national gross domestic product (GDP) [1]. Livestock is an integral and important component of the Nepalese agriculture sector, contributing approximately 24% to the agricultural GDP [2]. It also plays important roles in human food and nutritional security, livelihood, regional balance, gender mainstreaming and rural poverty alleviation [3]. Approximately 87% of the total Nepalese people keep some form of livestock. With 5.8 heads of livestock and poultry per household, Nepal has one of the highest ratios of livestock to humans in Asia. However, agricultural productivity in Nepal is one of the lowest in South Asia and has been stagnant in recent years. One of the main reasons for this low productivity is the failure to achieve adequate productivity from the animals, maintain their health and ensure access to resources for farmers raising livestock [4].

There are approximately 7.2 million cattle, 5.2 million buffaloes, 0.8 million sheep, 10 million goats, 1.2 million pigs and 48.1 million poultry in Nepal. Of these, only 20% are commercially managed, while the rest are owned by small farmers [5]. In livestock rearing, various diseases cause an estimated annual loss of 845 million NPR (Nepalese rupee) to the cattle and buffalo industry of the country [6]. Nevertheless, the livestock subsector has been one of the fastest growing subsectors in agriculture in Nepal. The Agriculture Perspective Plan 1995–2015 identified livestock production and productivity as an engine for growth in agriculture [7].

There are currently four academic institutes in
Nepal that offer courses for the attainment of bachelor degree of veterinary science (Table 1). These are: (i) Faculty of Animal Science, Veterinary Science and Fisheries (FAVF) at Agriculture and Forestry University (AFU), Rampur, Chitwan; (ii) Institute of Agriculture and Animal Science (IAAS) under Tribhuvan University (TU) at Paklihawa, Rupandehi; (iii) Himalayan College of Agricultural Sciences and Technology (HICAST) affiliated to Purbanchal University (PU) at Kalanki, Kathmandu; and (iv) Nepal Polytechnic Institute (NPI) affiliated to PU at Bharatpur, Chitwan. BVSc&AH (Bachelor of Veterinary Science and Animal Husbandry) is a five-year programme comprising 10 semesters – nine semesters of study at college and a six-month internship at various institutions related to the veterinary profession.

### 2. SCHOOLS FOR VETERINARY EDUCATION IN NEPAL

#### 2-1. FAVF at AFU

AFU was established in Rampur, Chitwan, Nepal, in June 2010. This is the first technical university in the country. It was founded upon the merger of the Rampur Agriculture Campus of the IAAS and the Hetauda Forestry Campus of the Institute of Forestry of TU, thus inheriting undergraduate, graduate and PhD programmes in agriculture and veterinary sciences and fisheries from the Rampur Campus and undergraduate and Master programmes in forestry from the Hetauda Campus. The educational programmes are supported by quality research and developmental activities. Presently, there are three faculties within the university; FAVF, Faculty of Agriculture, and Faculty of Forestry.

The university has a total of 110 faculty members. The current university student population consists of around 1,300 undergraduates, 200 postgraduates and 50 PhD scholars in different disciplines of agriculture, animal science, veterinary science, fisheries and forestry. The Rampur academic complex occupies an area of 280 ha and the Hetauda Forestry Campus has an area of 95 ha. The faculty members of the university are involved in different research and developmental activities with the support of national and international institutions and agencies. At present, various classrooms, farm buildings, laboratories, student dormitories and residential buildings are in need of renovation (Figs. 1 and 2). The university requires more support both nationally and internationally for human resources development. As it is a new university, the faculties and students also need to learn

![Fig. 1. BVSc&AH classroom building, AFU, Rampur, Chitwan.](image-url)
how successful universities work and improve their standing in society. Faculty and student exchange would benefit both parties in the long term [8].

As mentioned above, FAVF is one of three faculties within AFU. The FAVF fosters student self-development, commitment and responsibility for the welfare of Nepalese society. Chitwan District is one of the areas with the most potential for agriculture, livestock, poultry and aquaculture farming. Presently, the livestock-raising pattern is changing from household level to commercialization. This is mainly occurring in poultry and dairy farming. It is greatly facilitated by committed farmers and other allied entrepreneurs, the presence of adequate technical support from AFU, the suitability of the environment for farming and adequate marketing facilities [8].

Currently, there are 10 departments in the veterinary science programme. These are: Veterinary Anatomy, Physiology and Biochemistry; Veterinary Microbiology and Parasitology; Veterinary Pathology and Clinics; Veterinary Pharmacology and Surgery; Theriogenology; Veterinary Medicine and Public Health; Animal Breeding and Biotechnology; Animal Nutrition and Fodder Production; Livestock Production and Management; and Aquaculture and Fisheries. There are 38 faculty members, 42 supporting staff and nine adjunct faculties at FAVF. Two academic programmes are provided, namely a five-year BVSc&AH and a four-year BSc Fisheries. In 2013, the faculty incorporated BSc Fisheries programme for the first time in the country. Around 50 students enrol each year in the BVSc&AH programme. In 2015, the faculty enrolled 56 students in the BVSc&AH programme and 16 students in the BSc Fisheries programme. Additionally, 37 Masters students and nine PhD students were enrolled in different disciplines of FAVF. As it is a new university, the first intake of BVSc&AH students is currently in its sixth semester [8].

FAVF has linked up with universities abroad for capacity building, enhancement of research and laboratory capacity, faculty and student exchange research collaboration, etc. The faculty is fully committed to sharing samples and reagents in order to produce quality peer-reviewed publications and reports. FAVF is happy to provide space and accommodation for the conduct of workshop and related research activities by participating faculty members from South Asia and abroad. The faculty has very good working relationships with local organizations such as Department of Livestock Service (DLS), Nepal Agricultural Research Council (NARC), Department of National Parks and Wildlife Conservation (DNPWC), Himalayan Animal Rescue Trust (HART) Nepal, Local Initiatives for Biodiversity Research and Development (LI-BIRD), National Zoonoses and Food Hygiene Research Centre (NZFHRC), Asia Network of Sustainable Agriculture and Bioresource (ANSAB), etc. FAVF also has links with foreign institutions such as The United Graduate School of Veterinary Science, Yamaguchi University, Japan (Fig. 3), HART UK, etc.
University of Veterinary Medicine, Vienna, Austria, St. George’s University, Grenada, West Indies, Anglia Ruskin University, Cambridge, UK, etc [8].

2-2. IAAS under TU at Paklihawa, Rupandehi

IAAS is an agricultural institute under TU in Nepal for college level education in agriculture and veterinary sciences. The IAAS originated as a School of Agriculture established in 1957 in Kathmandu to train Junior Technical Assistants. In 1968, the school was upgraded to a College of Agriculture. In 1972, the college was recognized as IAAS under TU and moved to Rampur, Chitwan, in 1974. It offers a BSc in Agriculture (BScAg), BVSc&AH, Master of Science (Agriculture), Master of Science (Animal Science), Master of Veterinary Science, Master of Science (Aquaculture) and PhD programmes. Following the government of Nepal’s policy in 2010 to establish AFU at Rampur, Chitwan, the physical properties and other assets of IAAS, Rampur, were acquired by AFU. Consequently, the office of the IAAS Dean was moved to Kathmandu in 2011 and directs its programmes and activities through the Dean’s contact offices in Sanepa, Lalitpur and Kirtipur, Kathmandu. Although AFU was established in the facilities of IAAS, some administration offices of IAAS remain in Rampur (Fig. 4). IAAS academic programmes are not conducted there, with the exception of the final years of bachelor students who were enrolled at the Rampur Campus prior to the establishment of AFU. Bachelor programmes are now conducted at its Lamjung Campus (BScAg) and Paklihawa Campus (BScAg and BVSc&AH) (Fig. 5) [9].

The veterinary science programme of IAAS was initiated in 1992 at the Rampur Campus, Chitwan, by converting its four-year BSc Animal Science programme into a five-and-a-half-year BVSc&AH degree. This programme conversion made it the first veterinary school in the country and approximately 300 veterinarians have been trained at IAAS to date.

Following the acquisition of the facilities of IAAS, Rampur, by AFU, the Veterinary School of TU moved to the Paklihawa Campus, Rupandehi, in 2013. At present, it enrols approximately 40 students each year in the BVSc&AH programme. There are four departments in the veterinary science programme: Veterinary Anatomy, Physiology and Biochemistry; Veterinary Medicine, Pharmacology and Surgery; Veterinary Microbiology, Parasitology and Epidemiology; and Veterinary Pathology, Theriogenology and Clinic. Additionally, the three departments of Animal Breeding and Biotechnology, Animal Nutrition and Fodder Production, and Livestock Production and Management work closely with the four aforementioned departments for a broader perspective of animal science study and research [10].

2-3. HICAST

HICAST was established in 2000 (Fig. 6). It is affiliated to PU and is the first private veterinary school in Nepal. It recently moved to Kalanki, Kathmandu, from its original site in Bhaktapur. The college aims to teach and contribute to all fields of knowledge in agricultural and applied sciences, from the farmer’s intuitive knowledge to the sciences and from the theoretical to the applied. It offers BScAg and BVSc&AH programmes. The veterinary programme (BVSc&AH) at HICAST was initiated in 2001. For the last few years, it has enrolled 48 students per year in the BVSc&AH programme. To date, it has trained nearly 200 veterinarians [11].
2-4. NPI

NPI Ltd. was established in Bharatpur, Chitwan, in 1994 as a training institute to conduct short-term training in various technical fields (Fig. 7). Subsequently, university level undergraduate programmes were also launched at the institute. In 2010, an undergraduate level veterinary programme (BVSc&AH) was introduced. This programme is affiliated to PU. It is the second private veterinary school in Nepal. NPI enrolls 48 students each year in the BVSc&AH programme. The first intake of BVSc&AH students will graduate in July/August 2016 [12].

3. JUNIOR TECHNICIANS AND JUNIOR TECHNICAL ASSISTANTS (PARA-VETS) FOR VETERINARY SERVICE

Apart from these veterinary colleges, there are various technical training schools affiliated to the Council for Technical Education and Vocational Training (CTEVT) that educate students to the levels of Junior Technician (JT) and Junior Technical Assistant (JTA) in the field of veterinary science. After passing the School Leaving Certificate (SLC) examination, students can join JTA and JT level courses. There are about three dozen training centres that conduct 15-month veterinary JTA training and three schools that conduct a three-year veterinary diploma programme. There are more than 7,500 para-vets (JT/JTA) in the country. Because the small number of veterinarians in Nepal cannot personally attend all the farms, these para-vets serve the livestock sector of our country to a great extent.

4. CONCLUSION

In Nepal, the current veterinary education is recognized as a major determinant for the all-round development of the country. The quality of the education has to be enhanced to produce able, productive, disciplined and socially responsible citizens and to create a workforce capable of facing the challenges of the 21st century. The immense potential of the livestock sector in enhancing the income of the poor is becoming increasingly apparent. Livestock distribution is more equitable than land distribution. Thus, the livestock sector provides a natural entry point for poverty alleviation programmes. However, a major issue affecting the livestock economy is the quality of the education and the effectiveness of the delivery of livestock services to communities. At present, a good number of institutions provide veterinary education in Nepal. However, it is important to maintain the quality of the education they provide. For this purpose, the institutions require infrastructure development, adequate numbers of highly qualified academic staff, enhanced performances of faculty supporting staffs, upgraded laboratories and the provision of research facilities.
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Correspondence: Gokarna GAUTAM, Department of Theriogenology, Faculty of Animal Science, Veterinary Science and Fisheries, Agriculture and Forestry University, Rampur, Chitwan, Nepal.
E-mail: gokarnagautam@gmail.com

Veterinary Education in Nepal

ネパール国の獣医学教育の現況

ゴカルナ・ゴータム1、イシュワリ・プラサド・ダカール1,2
1ネパール国農林業大学・畜産獣医水産学部、2ネパール国農林業大学・副学長

要 約

ネパール国は農業国で、畜産も盛んである。国内の地域を問わず、農業関連産業や畜産関連産業は主要な経済分野であるため、獣医学教育機関も最近増加してきた。ネパール国で獣医学を学ぶ大学教育を修了するとBVSc&AH（獣医畜産学士）が授与されるが、この教育は同国内では現在 4 機関で行われている。そのうちの 2 機関は国立大学、他の 2 機関は私立大学である。ネパール国獣医師協議会には現在までに856名が登録されている。ネパール国獣医師協議会が定める指針に沿い実施される獣医学教育のレベル維持は極めて重要といえる。そのためには、国内 4 つの獣医系教育機関の施設整備、教育スタッフの質的・数的充実、教育補助員の技能充実、最新診断技術・解析機器の導入や研究設備の充実などが今後の課題となっている。

Key words: 獣医学教育、ネパール、畜産