



"ANIMAL WELFARE: THE GOOD PRACTICES FOR ANIMAL" ISSN 2091-0495

# THE +BLUE CROSS

VOLUME-16,2077(2020)

THE ANNUAL BULLETIN OF NEPAL VETERINARY STUDENT'S ASSOCIATION, AFU



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ISSN 2091 0495



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**The Annual General Bulletin of NVSA, Rampur, Chitwan**

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<b>Volume</b>	16
<b>ISSN</b>	2091-0495
<b>Frequency of publication</b>	Annual
<b>Editorial policy</b>	A medium for publishing technical papers on veterinary and its relevancies
<b>Official language</b>	English
<b>Subject of interest</b>	Veterinary science; Veterinary related environmental and social science.
<b>Subscription</b>	Category Rate (NRs.) NVSA members 200.00 Institutional 300.00 Other individuals 250.00
<b>Correct citation</b>	Cite bulletins in the text of the paper or article by listing the author, the year and the page number in parentheses. For example: (The Blue Cross, 2019, p. 30).  Cite a bulletin in a reference list with the author of a bulletin, publication date, title (in italics and include which issue if necessary), publisher's location and the publisher. For example: The Blue Cross.(2019). (any article inside it):. Nepal. NVSA.
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The statements and opinions published in this bulletin represent the views of authors or persons to whom they are credited and bear responsibility themselves, not the Editorial Board.

Cover Concept: Bishal Pathak

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"Securing Quality Education to Enhance the Veterinary Profession"

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## Editorial Note



The wait is over and we are very glad to announce the publication of **The Blue Cross** Volume 16. First of all, I would like to apologize for the delay in publication. With a history of 25 years of establishment, Nepal Veterinary Students Association (NVSA) has been publishing The Blue Cross Bulletin regularly. It gives me immense pleasure to get it published through the online platform. It has provided a convenient platform to the students, young scientists, researchers, faculties, and all enthusiasts for expressing their ideas and findings through publication. Moreover, it has encouraged many of the fresh minds to enhance their writing skills.

The Blue Cross Bulletin includes research articles, review articles, case studies, short communication, general articles, and abstracts of articles related to various disciplines. It covers various areas of veterinary science, livestock husbandry, public health, and other associated fields. All the contents are presented in a standard documented form and are assessed as per the guidelines set by the Editorial Board. This publication aims to benefit the whole scientific community including researchers, professors, and academicians. Moreover, it will be beneficial to the farmers and the public as well.

With all the collective efforts The Blue Cross has come in the publishing phase. A vote of thanks goes to the people providing us with their articles. I would like to express my sincere gratitude to the reviewers and professors helping us with peer review of the articles. Similarly, I am thankful to the NVSA executive committee members, The Blue cross crew members, students, and all other helping hands involving directly or indirectly throughout the journey of publication. I am highly indebted to Mr. Deepak Sapkota, Asst. Editor-in-chief for his dedication throughout the publication.

With the advancement in its publication through online access, I believe that the upcoming volumes of The Blue Cross will be easily accessible to a large number of readers and build up a strong foundation of recognition.

.....  
Santosh Pokhrel  
Editor in Chief, NVSA 20th committee  
Rampur, Chitwan, Nepal

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member  
B.V.Sc. & A.H 2<sup>nd</sup> Sem

### ARTICLE INVITED

Articles related to Veterinary Science, Animal Health and Management are invited for the 17<sup>th</sup> volume of THE BLUE CROSS the article should be in english, not exceeding 2000 words and contributors are requested to follow APA format of referencing. Article can be sent to: [nvsaceo@gmail.com](mailto:nvsaceo@gmail.com)



Government of Nepal

# Nepal Veterinary Council



## Message from the Chairperson

It is my immense pleasure to extend my heartfelt greetings to Nepal Veterinary Students' Association (NVSA), Rampur for publishing 16<sup>th</sup> volume of "The Blue Cross" annual bulletin. NVSA has a marvelous history of two decades; dedicated for safeguarding the quality education and maintaining the dignity of veterinary profession.

Annual bulletin of NVSA "The Blue Cross" has always come forward with a pertinent theme that addresses challenges faced by veterinary professionals and livestock stakeholders. This bulletin will be beneficial in ensuring the positive development of veterinary professionals and for disseminating innovative ideas to the farmers. The bulletin will be helpful to the professionals, stakeholders and academic institutions to cope jointly with globally emerging issues on animal welfare, prevention and control of zoonoses, one health practice, animal diseases and climate change.

It's a great effort by NVSA, Rampur to work on such circumstances and to publish this important bulletin.

Finally, I would like to thank the executive and editorial board for their devotion for publishing a masterpiece "The Blue Cross".

Dr. Sita Ram Aryal  
Chairperson  
Nepal Veterinary Council, Tripureshwor



# Agriculture and Forestry University

## Office of the Vice Chancellor

Chitwan, Nepal



### Message from Vice Chancellor

It gives me immense pleasure to write few words on the occasion of publication of 16<sup>th</sup> volume of “**The Blue Cross**”, which is the main outlet of veterinary and animal science education in Agriculture and Forestry University, Rampur, Chitwan, Nepal. I hope this publication of “The Blue Cross” with theme ‘**Animal welfare: The good practices for animals**’ has several articles which will address the issues raised by livestock farmers and serve for further extension activities.

I am confident that attempts made in this publication will integrate disciplines of veterinary science, animal science and aquaculture science. This journal will surely be beneficial for the faculty members, students and other stakeholders.

Quality research – a reflection of teaching research procedures and to follow standard protocols through thesis work and internship work has thus remained as a prime concern to all scientific community. The university has been gradually developing its function of teaching, research and extensions since its establishment.

I have been always encouraging students to take similar initiative which will broaden scientific innovations, knowledge and technology. Finally, I want to congratulate the team on the successful publication of 16<sup>th</sup> volume of The Blue Cross. Taking leadership in such kinds of academic activities is highly acknowledged. I want to congratulate to all the students who had devoted their time and efforts for bringing the journal to its final shape.

I wish for the success of Nepal Veterinary Students’ Association in every step it has planned to undertake.

Prof. Dr. SharadaThapaliya  
Vice Chancellor  
Email: vc@afu.edu.np





Agriculture and Forestry University  
Faculty of Animal Science, Veterinary Science & Fisheries

## Office of the Dean

Rampur, Chitwan, Nepal

Tel.No. : 056-592131

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### Message from Dean

It is an immense pleasure to extend heartfelt greetings to Nepal Veterinary Student Association (NVSA), Rampur, Chitwan for publishing 16<sup>th</sup> volume of “The Blue Cross” annual bulletin. I want to express my gratitude to all the working hand united to cover the materialistic bulletin through its publication that includes the teacher’s guidance, student’s ideas and farmer's experience.

NVSA, student platform, has been playing a vital role to connect student’s ideas, knowledge and approaches to the concerned authorities and field level through its innovative and motivating activities in veterinary practices. I strongly believe that this bulletin will be the milestone in encouraging and disseminating animal welfare for students, teachers and farmers all over the country. I assure that the faculty will coordinate and collaborate with the organization in order to develop a technical collaboration between the elements of veterinary profession. I hope NVSA will succeed in each and every step it has planned to undertake in a scientific and well mannered way.

Therefore, I would like to wish huge congratulation to each and every hand of NVSA in successful publication of this volume and express my great joy on this occasion.

Yours sincerely

Prof. Matrika Prasad Jamerkatel

Dean

Email: mpjamarkatel@afu.edu.np

Phone no: 9855055670

*"50 Years in Veterinary Profession: New Dimension in Federalism"*



# नेपाल भेटेरिनरी एशोसिएसन NEPAL VETERINARY ASSOCIATION



## Message from the President

I am delighted for this opportunity to convey my felicitation to Nepal Veterinary Student Association, Agriculture and Forestry University (NVSA-AFU), our sister organization, in this 16th volume of "The Blue cross" which is being published under the theme "Animal welfare: The good practices for Animals".

"The Blue cross" bulletin is the pride of NVSA-AFU and veterinary fraternity as it has covered review articles, scientific deliberations, case studies, abstract of scientific research and many more information related to the veterinary science, animal and public health as a whole.

Animal welfare is still neglected in our country. We keep on facing various challenges and issues where animal welfare is being compromised. Promulgation of Animal welfare act in the country is today's utmost need. Supreme Court of Nepal has already made a verdict on animal welfare, directing the government to come up with an act at the earliest.

There is a strong need to pressurize the government and allied agencies to address animal welfare and improve the well-being of animals.

Awareness among stakeholder including the government on animal welfare is a must.

Finally, I hope that this bulletin will be a lasting memoir for highlighting the importance of animal welfare in Nepal.

I again wish NVSA-AFU for their important and professional role towards contribution in development of veterinary profession and improvement of veterinary education.

Wishing you all the best for future endeavor.

Regards,

**Dr. Sital Kaji Shrestha**

President

अध्यक्ष

डा. सुवाष श्रेष्ठ  
९८५५०८०६८५  
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सह-सचिव

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डा. विकास पुरी  
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## Message from the President

I would like to congratulate the whole NVSA 20th Committee, and especially Blue Cross Publication team for the issuance of The Blue Cross Vol: 16 with the main theme "Animal welfare". With the accomplishment of publication work, I also would like to thank the committee for continuing this great legacy.

Once being a part of the publication team, I know the great toil it took on us. Only the great team work and consistent effort made us possible to achieve the great stride on completing publication. Over the period of time probably the situation never remains the same. Now the pandemic is prevalent, and in this critical time to keep up with safety measures to save ourselves from infection is one great deal and here you come up with "The Blue Cross, 16<sup>th</sup> Volume". All the work of collecting an article, editing them and bringing them to print either hard or soft, it is a great deal of work. Despite the COVID adversaries this team has done exemplary work.

I greatly appreciate the team for an opportunity to scribble the few words. I am very grateful to the team for living up the tradition of "The Blue Cross." With my conclusive words I would also like to congratulate the upcoming NVSA committee member and wish very successful tenure.



Subash Shrestha  
President, NVA Province 3  
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## Message from President



It is a matter of immense pleasure and pride to bring out the 16<sup>th</sup> volume of "The Blue Cross", annual bulletin of NVSA. It was an arduous yet planned journey to have this book in this current form. I want to express my sincere gratitude to all the helping hands that have been supportive and working responsibly throughout his exhausting yet exciting journey.

NVSA is an authoritative platform for student of veterinary science studying in different institutions throughout the nation. From the beginning it has come forward with the objectives of securing quality veterinary education and preserving the dignity of veterinary profession. After its establishment in B.S (1993 A.D), NVSA has been working for the betterment of veterinary students as well as farmers committed for the development of the nation. NVSA has been conducting various activities as well as programs at community level; the unfaltering journey of this organization has brought forward significant changes in the understanding regarding veterinary profession as well as veterinary services among the stakeholders. At the present circumstances, veterinary students are considered as the backbone for the upliftment of the country, technical experts in this field can bring about the revolution in actual sense, which is must for this country.

This edition of "The Blue Cross" comprises of research articles, review articles, case reports as well as general articles along with short communications related to animal management, antibiotic resistance public and one health approach and emerging technologies in the field of veterinary science. It is sure to act as an important hub for entrepreneurs, farmers, junior technician and community cadres as well it has always been.

Finally, I would like to express cordial gratitude to the respected teachers and seniors, colleague and endeared juniors without whom the materialization of this volume would have been impossible. I would also like to express my thanks to all those individuals, institutions and helping hands that joined us for the successful journey of NVSA 20<sup>th</sup> committee. NVSA heartily welcomes suggestions and compliments on this volume of "The Blue Cross" which will act for the betterment of the volumes yet to come.

Jay NVSA! Jay Veterinary Profession

.....

Bishal Pathak

President, NVSA 20<sup>th</sup> committee

Rampur, Chitwan, Nepal

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## Message from the desk of Secretary



It has been an immense pleasure for me to write an inscription for 16<sup>th</sup> volume of "The Blue Cross", the annual bulletin of Nepal Veterinary Student's Association (NVSA), Rampur, Chitwan. Nepal Veterinary Student's Association is an authoritative, non-profitable sister organization of Nepal Veterinary Association which has been milestone for strengthening the standard of veterinary students through the means of securing quality education with various opportunities and welfare programs and uplifting the dignity of veterinary profession.

The 20<sup>th</sup> executive committee led by Mr. Bishal Pathak as president was formed on 2076-02-06 comprising fifteen executive and four advisory members. Apart from this, two indispensable assisting committees i.e. Research and Executive Committee (RECOM) and BLUE CROSS CREW were formed.

RECOM was formed under the coordination of Mr. Bal Krishna Pandey and it had organized several welfare programs oriented to animal health such as FMD vaccination program, Rabies Vaccination week campaign and AFU Livestock Farm improvement like deworming and vaccination program as praiseworthy example.

The Blue Cross Editorial Board was formed under the coordination of Chief Editor Mr. Santosh Pokharel. "The Blue Cross Vol 16" is the result of outstanding works of same team on research article, review article, general article, case study and many more information related in the field of veterinary science, animal science and public health. Initiatives and leadership role in academic activities, global minded on scientific innovation, knowledge and technologies on Veterinary and Animal Science and a novel deed of disseminating information and materials among veterinary professionals, students, teachers, junior technicians, farmers and other concerned stakeholders are its others achievements.

Furthermore, NVSA organized Poster Art Competition on the occasion of rabies week celebration involving student from all Veterinary Colleges of Nepal, organized plantation and cleanliness program on the occasion of world environment day, participated in rally program during World Veterinary Day and volunteering in 2<sup>nd</sup> Nepal Poultry and Livestock expo, Asian Regional Conference on Goats (ARCG 2019) and 7<sup>th</sup> International Conference on Sustainable Animal Agriculture for Developing Countries (SAADC 2019). Similarly, we organized Animal health camps, and actively participated on cultural performance in the Annual General Assembly of Nepal Veterinary Association held in 2019. NVSA Park was the breakthrough of this committee. I hope NVSA will be indulging in contemporary and innovative activities in upcoming days too.

Finally, I would like to express my sincere gratitude to all respected teachers, seniors, colleague, endeared juniors and supportive known or un-known individual or organization for their hard work, dedication and enthusiasm in work for successful tenure of this committee in never ending voyage of NVSA.

.....  
Sandesh Gaudel

Secretary, NVSA 20<sup>th</sup> committee

Rampur, Chitwan, Nepal

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Member  
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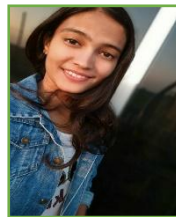
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Member  
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