



# NAVS NEWS VIBES

## NATIONAL ACADEMY OF VETERINARY SCIENCES (INDIA)

Volume 3 • Issue 3 • July 2023

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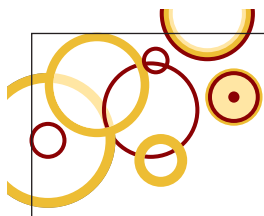
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## EDITORIA EDITOR'S DESK

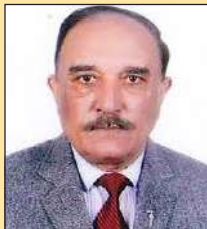
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Dear Esteemed Fellows

Greetings!

Governing Council Elections of the National Academy of Veterinary Sciences (India) are due. The importance of the Governing Council in steering the direction of our prestigious Academy cannot be underrated. It is crucial that we bring forth individuals who embody the principles, expertise, and vision that our academy stands for. The Academy can play a crucial and multifaceted role in advancing the continuing veterinary education (CVE) in the country. With a rapidly evolving veterinary landscape, the NAVS can serve as a vital catalyst for the ongoing professional development of veterinarians. Here are several key roles that NAVS can fulfil in this regard :

- **Establishing and maintaining ideals:** NAVS(I) can collaborate and guide the Veterinary Council of India for setting and maintaining the high standards for veterinary education and practice in India by formulating guidelines for curricula, accreditation of veterinary colleges and establishing best practices in veterinary science.
- **Curriculum augmentation:** To ensure that veterinary graduates are well prepared for challenges in changing scenario, the academy can work closely with veterinary institutions for the continuous updating and improvement of the veterinary curriculum by adding latest technologies, practices and research findings.
- **Educational programmes:** To address the diverse needs of veterinarians in different fields, the NAVS(I) can organize a variety of CVE programmes including webinars, seminars, workshops and conferences to cover the wide range of topics.
- **Promoting research and innovations:** The academy can play a pivotal role in encouraging the veterinary researchers by supporting and recommending new research initiatives to the government and funding agencies for exploring the new frontiers in veterinary science that can result in significant advancement in the field, which can be disseminated to veterinarians through CVE programmes.
- **Creating network of knowledge-sharing community:** The academy can help in creating a knowledge sharing community for free-exchange of ideas and experiences by facilitating networking and collaboration among veterinarians, researchers, educators and policy makers, eventually leading to improved professional growth.
- **Online knowledge wealth:** Academy can create and maintain a digital repository of educational materials, webinars and resources which would be easily accessible to veterinarians throughout the globe.
- **Appreciation:** Recognition of the veterinarians by the academy, especially who are actively engaged in CVE. This would certainly encourage them and help them to stand out in the field, demonstrate their commitment to professional development and potentially advance their careers.
- **Advocacy:** Promotion of Veterinary profession, especially by highlighting its importance in public health, animal welfare and economy can help to secure funding for veterinary research, education and CVE initiatives.
- **Ethical directions:** Academy can enhance the integrity of the profession by promoting ethical standards, i.e., by providing ethical guidance and resources for rational decision making by the veterinarians, who may face challenging ethical dilemmas in their practice.

Thus NAVS (I) can ensure that Indian Veterinarians remain at the forefront of Veterinary Science, providing the best possible care to animals and contributing to the overall well-being of the society. In closing, I would like to express my gratitude for your continuous support and dedication to the National Academy of Veterinary Sciences (India). Let's come together to ensure a robust and visionary leadership for our academy.

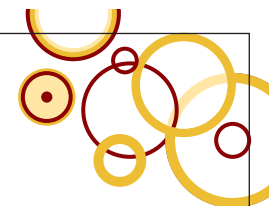
I look forward to receive your crucial annotations and beneficial suggestions at [ldsinglanavs@gmail.com](mailto:ldsinglanavs@gmail.com); [ldsingla@gmail.com](mailto:ldsingla@gmail.com) to make NAVS News Vibes more informative, enriched and effervescent in the future.

Best regards

**L.D. Singla**

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## HORIZON PRESIDENT'S VIEWS & VISION

### My dear distinguished Fellows of the academy,

India is emerging as a global destination for innovation, incubation and startups. Government of India has come up with exciting programmes to support the eco systems. Livestock production has faced and will face many opportunities and challenges in the future. The genetic potential, the nutrient utilization and disease prevention are still the major areas for further optimization of productivity and efficiency in livestock production. Science and technology will offer opportunities for further innovation in livestock production. Innovations have the potential to meet the challenges to increase resource efficiencies, healthy livestock, responsible production system and optimal profit throughout the value chain.

Thus, we can test out that the livestock sector offers plenty of scope for the budding veterinarians to become entrepreneurs in several segments of animal production besides the regular government appointments. The process of designing, launching and running a successful business is entrepreneurship. By becoming an entrepreneur, you employ yourself and provide employment for others besides generating wealth and contributing to the GDP of the country.



The qualities of successful entrepreneur are creativity, vision, ambition to think big and dream big, self confidence not over confidence, courage to face uncertainties, inter personal skills, technical skills, financial skills, moderate risk taking ability and essentially you need out of box thinking.

India ranks third in the startups ecosystem after USA & UK and is emerging as a hub for innovation which can trigger social changes and solve the problems faced by contemporary India. There are 156 livestock technical startups in India and some of them viz Licious, fresh to home foods, Stella Apps, Tender cuts, Animal and Fipola etc are very successful. The National livestock mission is also focusing on entrepreneurial development in dairy, poultry, sheep, goat and piggery including feed and fodder development.

I thought it may be appropriate for me to narrate my journey in succinct as a Scientist, professional manager, and expert on United Nations Industrial Development Organization and ultimately how I turned to be an entrepreneur. The entrepreneurial career for the professionals is quite challenging and rewarding if you are successful. We should think of translating technical concepts into industries rather than to adopt general lines of business.

India is emerging as the largest and fastest growing consumer market in the world due to the dramatic changes in the economic environment and liberation of the Indian economy. The progressively affluent middle class of over 500 million people consume meat and meat products in preference to vegetable proteins creating large solid wastes in the environment. The recycling of these solid wastes into an animal protein feed supplement is a remarkable economic and public health phenomena.

I have developed a process technology of utilizing these solid wastes for manufacturing a Multi nutrient feed supplement containing protein, fat, calcium and phosphorous to replace partially soyabean meal and DCP in poultry and aqua feeds. The primary challenge of this concept was the vendor development to procure the raw material.

The handling of this raw material was pretty difficult since it has moisture of 65 to 70% and has to be treated within 15 minutes from slaughter failing which it gets putrefied and emits a very foul smell. The company has innovated a mixture of few chemicals which reduces the pH from alkaline to acidic level preventing the protein degradation. The company has developed several vendors all over the country for collection and treatment of the animal offal. The company also collects the raw materials from tribal areas contributing to the development of tribal areas also. Such collected and treated animal offal is transported to our manufacturing units located around Chennai.

The importance of technological innovation and its application to the industry plays a very prominent role in the growth and profitability of

the industry. The development of a technology is a perception but commercialization of technology is a reality and a complex phenomena. The manufacturing technology adopted is a combination of heat, pressure and moisture without any loss of crude protein or amino acids in the final product. Sterilization is predominant factor for nutrient assimilation in the physiological system. The operation consists of heating animal offal to a temperature of 140°C under 4 Bar pressure at which the cells disrupt releasing the fat and protein.

Thermal process plays an important role in achieving optimum process conditions. The large thermal driving force between the rendering vessel and meat mass is a essential factor. The agitation of meat mass contributes to efficient heat transfer to the mass. The cooking happens in a double jacketed stainless steel vessel where the steam circulates in the outer jacket and the raw material is in the inner jacket being agitated by an agitator. Since sterilization is not by direct heat, the nutrient values are not destroyed. The protein supplement manufactured is free from all pathogenic microorganisms such as *E.coli*, *Salmonella* and *Clostridium* as they are destroyed due to high temperature and pressure in the manufacturing process.

A most modern quality control laboratory for chemical analysis and microbiological assays has been established. Pepsin digestibility is the main indicator for protein digestibility and is estimated using a pepsin concentration of 0.2%.

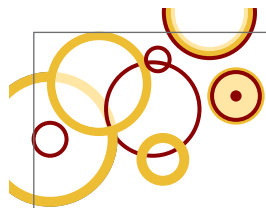
The company has set up a most modern, sophisticated, state-of -the -art protein recovery plant in the year 1994 to manufacture high quality Multinutrient - Poultry Feed Supplement - BIO-A-PRO. The company has two manufacturing units, one in Kanchipuram and other in Sholavaram in Tamilnadu, India. The company also exports to UAE.

Thus the capacity for creativity and innovation towards the new product development is the biggest strength of this company which has transformed from a small scale into a large mid corporate company. The company processes around 40,000 tons of animal offal per month on a moisture basis.

My career as a working professional and an entrepreneur has been highly enriching. I count every good and bad experience as a source of learning. My biggest learning is staying ahead and being futuristic in all the areas I am working, which will benefit my customers. Innovation and creativity should be a crux of everything we do. I strongly believe an entrepreneur should always believe in his dream and sketch out a plan to translate it into reality.

Cordially yours

(DVR PRAKASH RAO)



## THE ACADEMY

### EVENTS & ENDEAVOURS

#### 18<sup>th</sup> Governing Council Meeting of the Academy

The 18<sup>th</sup> Governing Council (GC) meeting of NAVS (I) was held on 28<sup>th</sup> April, 2023 at 3.00 PM at NASC Complex, PUSA, New Delhi.

Dr DVR Prakash Rao, President NAVS (I) welcomed the GC Members and special invitee (Maj Gen Shri Kant SM, VSM (Retd), Past President).



He conveyed his satisfaction regarding good response of applicants for various awards. He expressed his views about enhanced visibility of the Academy among various Veterinary Universities. As President of the Academy he is being regularly invited by the Vice Chancellors and VCI in various fora.

##### 1. Progress on points from the previous meetings

- (a) **Evaluation of application for various awards:** The Secretary General informed the house that out of 46 applications received for Fellowship Award, 35 applicants have qualified for the award. Out of 14 applicants for Associate Fellowship Award, 09 applicants have qualified for the award. Similarly 27 out of 38 applicants have qualified for Membership award.
- (b) Further, The Secretary General intimated that as per the existing norms of the Academy, there is a limit of grant of 25 Fellowship Awards in an academic year. Due to COVID-19, there was very poor response from the candidates for applying for Fellowship awards during the year 2021-22 and therefore, we had to extend the date of receipt of applications twice. Hence, 46 applications received, covered two Academic years i.e 2021-22 and 2022-23. The committee recommended grant of 35 Fellowships covering both the years. The GC approved the above awards.

##### 2. Agenda points

- (a) **Election:** The President informed the house that he had a word with Dr Inderjeet Singh, Vice-Chancellor, Guru Angad Dev Veterinary & Animal Sciences University regarding taking on the responsibility of Returning Officer for the next Election due in November, 2023. Dr Inderjeet Singh has accepted the offer, I therefore recommend him to be assigned the task of Returning Officer for the next Election. The GC approved the proposal.
- (b) **Continued Veterinary Education:** The committee constituted as under will formulate policy document based on deliberations made by various speakers and panelists

during the seminar held on 28 April, 2023 on the subject :

- (a) Dr AC Varshney - Chairman
- (b) Dr Minakshi Prasad - Member
- (c) Dr SK Gupta - Member
- (d) Maj Gen ML Sharma (Retd) - Member
- (e) Dr S F Zaman - Member (Brooke India)

#### 19<sup>th</sup> Governing Council Meeting of the Academy

The 19<sup>th</sup> Governing Council (GC) meeting of NAVS (I) was held on 30<sup>th</sup> May, 2023 at 11.30 AM (Online Mode).

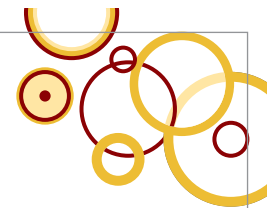
Dr DVR Prakash Rao, President NAVS (I) welcomed the GC members, Ex-Officio Member Dr BN Tripathi (DDG Animal Science; ICAR) and special invitee (Maj Gen Shri Kant SM, VSM (Retd), Past President). The President apprised the house that we have requested Dr Kamlesh Dwivedi, an outstanding Breeder from NDDDB to be the key note speaker for our Convocation and requested the GC Members to suggest names of eminent scientists for technical sessions. Further, he informed the house that we will be sending the agenda points which need ratification of GB to all the Fellows in due course.

##### 1. Progress on points of previous meeting

- (a) **Evaluation of Application for Fellowship/Associate Fellowship/Membership :** Dr Jyoti Palod, Govind Ballabh Pant University of Agriculture and Technology, Pantnagar, had applied for both Fellowship and Associate Fellowship and was considered suitable for both the above awards by the evaluation committee. The Secy Gen suggested that the candidate be considered for the higher award i.e. Fellowship. He has already obtained the consent of the applicant. In this regard the GC approved the proposal.

##### 2. Agenda Points

- (a) **NAVS (I) Dr CM Singh Award:** Out of seven applicants, Dr Ashok Kumar Tiwari, Director of ICAR-Central Avian Research Institute, Izatnagar (UP) scored the highest marks and hence, the evaluation committee recommended him for the award. The same was approved by the GC.
- (b) **NAVS (I) Dr DVR Prakash Rao Life Time Achievement Award-cum- Late Smt Sundari Prakash Rao Memorial Endowment Lecture:** The committee after due deliberations recommended Dr KM Bujar Baruah, Ex Vice-Chancellor of Assam Agricultural University, Jorhat (Assam) as most suitable candidate for the above award. The same was approved by the GC.
- (c) **NAVS (I) Dr Vallabh Mandokhot Memorial Award:** Out of seven applicants, Dr Sonika Ahlawat, Senior Scientist (Animal Biotechnology) of ICAR- National Bureau of Animal Genetic Resources (NBAGR), Karnal (Haryana) scored highest marks and hence, the committee recommended her for the award. The same was approved by the GC.



(d) **NAVS (I) Young Scientist Award:** Out of eighteen applicants, Dr Nitin Mehta, Associate Professor, Department of Livestock Products Technology of Guru Angad dev Veterinary and Animal Sciences University, Ludhiana (Punjab) scored the highest marks and hence, the committee recommended him for the award. The same was approved by the GC.

**3. Review of Guidelines for Dr CM Singh Award and Dr DVR Prakash Rao Life Time Achievement Award cum Late Smt Sundari Prakash Rao Memorial Endowment Lecture:** The President apprised the house that having interacted with various evaluation committees in the past, he is of the opinion that the candidates for the above awards are generally very Senior Veterinarians having very high profile life time achievements and therefore show reluctance for applying or competing for the awards. As such, he suggested that we should constitute a Screening-cum-Selection Committee of eminent Veterinarians having impeccable integrity (3 OR 5), who will nominate five eminent Veterinarians from public domain with good spoken reputation, having leadership qualities and those who have contributed significantly to uplift the image of Veterinary Profession and the Academy at National/ International levels. The committee will further discuss and select one candidate either unanimously or by majority vote. The proposal was deliberated and approved by the GC.

**4. Any Other Points with the Permission of the Chair**

(a) Dr AC Varshney brought out the need of institution of Senior Scientist Award. The proposal was generally accepted. The issue regarding generation of funds to cater for cash award of Rs. 31,000/- (Rupees thirty one thousand only) (As is the case with Young Scientist Award) was discussed. The President apprised the house that he has been assured of Rs. 5 Lakhs donation by Vice-Chancellor, Tamil Nadu Veterinary and Animal Sciences University, Chennai and expected similar donations from Jammu and Kashmir Agricultural Universities. He requested Dr BN Tripathi, DDG, ICAR, who has been selected for the appointment of VC, Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu to consider donation of Rs. 5 lakhs to the Academy. Dr BN Tripathi assured his co-operation.

(b) Maj Gen ML Sharma (Retd) raised a point regarding the possibilities of seeking affiliation of various Veterinary Associations with our Academy. The President informed the house that Dr Inderjeet Singh, President of Buffalo Association has agreed to join our Academy. He will further write to other Associations to apply for the membership with Rs. 2 lakhs as fee.

(c) The President apprised the house that there was a Whatsapp message from Dr MP Yadav regarding consideration of similar selection procedure for award of Fellowship/Associate Fellowship as is being followed by NAAS. He commented that they have got reviewed the score cards several times by the committees chaired by various Vice Chancellors/Members of ASRB. He was assured by Chairman and Member of ASRB who have been heading the evaluation committees that the selection procedure are at par with the NAAS. Maj Gen Shri Kant

SM, VSM (Retd) commented that we should write to the Vice Chancellors of various Veterinary Universities to consider four marks weightage for Fellowship and two marks weightage for Associate Fellowship while recruiting/selecting candidates for various appointments/promotions.

(d) At the end, the house observed two minutes silence to pay respect to the departed soul of Dr JS Bhatia, an eminent Veterinary Educationist. The President assured the house that he will soon write a letter of condolence to the family on behalf of the Academy.

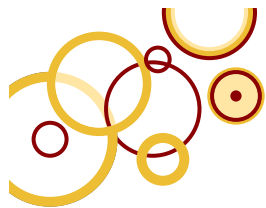
**Seminar on Continuous Veterinary Education in India**

To commemorate the World Veterinary Day (WVD) 2023, National Academy of Veterinary Sciences in collaboration with Brooke India organized a seminar on "Continuous Veterinary Education (CVE) in India" on 28 April, 2023 at NASC Complex Delhi. The WVD 2023 Theme of "Promoting Diversity, Equity and Inclusiveness in Veterinary Profession", was well adhered to. The event was attended by the noted Academicians, Scientists and Researchers, Senior Veterinarians and other experts from govt. and non-govt. organizations of Veterinary Profession.



CVE is a holistic approach towards the enhancement of personal skills and proficiency of Veterinarians throughout their professional career. CVE is a commitment to ongoing lifelong learning. CVE encourages looking forward and identifying opportunities to learn something new, refresh existing knowledge, improve skills, or simply keep up-to-date with the latest developments within a particular profession or industry. In practice, CVE can mean everything from taking a training course or attending an educational event, to studying for new qualifications or learning new aspects of a job. CVE enables learning to become conscious and proactive, rather than passive and reactive. It involves an individual documentation and keeping a record of the increasing skills, knowledge and experience they gain throughout their career.

Dr DVR Prakash Rao the President, NAVS(I) welcomed all the delegates and participants at the onset. Further, he emphasized that the academy has a pool of eminent veterinarians from various walks of life who can develop different courses, training modules to promote CVE in future. Animal Husbandry Commissioner, Department of Animal Husbandry and Dairying, GOI, Dr Abhijit Mitra expressed his views on the need of CVE in India while, the President of Veterinary Council of India (VCI), Dr Umesh Sharma, emphasized on liaison with government, NAVS(I) and Veterinary Universities to develop a robust mechanism for the professional development of Veterinarians in the country during their tenure depending upon their interest and expertise. Brooke India Director, Dr Suresh Honnappagol, being the keynote speaker had set the central theme of the seminar by providing the holistic approach on the subject.



The global perspective on 'CVE' was shared by the experts. Dr Inderjeet Singh, Vice Chancellor, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana discussed on Training and Academic perspective while Dr B N Tripathi, Deputy Director General (AS), ICAR discussed on Research Perspective during the seminar. With the aim to make a robust continuing veterinary education system in the country, some of the KEY recommendations made included development of different courses/modules -short and long term, establishment of training centre with all the facilities and provision of adequate funds.

The assemblage expressed that continuing Veterinary education should be made mandatory for Vets all over the country and a total of 50 credit hours should be mandatory for re- registration under State Veterinary Council/VCI.

The seminar on CVE was a great success, a total of 35 participants attended the seminar. There were senior officials, scientists, and academicians from institutions like Animal Husbandry Department (AHD), Remount Veterinary Corps (RVC), Indian Council of Agricultural Research (ICAR), NAVS(I), Brooke India and other Animal Welfare Organisations like Reliance India Foundation and Heifer India who attended the event. It was also advised that need-based training and upskilling programs must be run for the field vets from time to time.

### **President at 2<sup>nd</sup> Convocation of Bihar Animal sciences University, Patna**

Dr DVR Prakash Rao attended 2<sup>nd</sup> Convocation Ceremony of Bihar Animal Sciences University, Patna on 15<sup>th</sup> April, 2023 and delivered Chief Guest address. His Excellency the Governor-cum-Chancellor, Shri Rajendra Vishwanath Arlekar presided over the function.



*Dr DVR Prakash Rao President, NAVS (I) delivering the address as Chief Guest*

In his address as a chief guest, Dr. DVR Prakash Rao expressed his views that the livestock sector has undergone a phenomenal transformation in recent decades which has sparked worldwide attention in increasing pressure on ecosystems and natural resources. He said that the Animal Husbandry sector in India is fast growing, employing skilled, semi skilled and under skilled population of the country. It sustains the livelihood of farmers and becomes a source of income and insurance to failures of agriculture. The ownership of livestock and poultry are more evenly distributed with landless laborers and marginal farmers strengthening the socio-economic fabric of the country. The gross value addition of livestock sector was around 11.2 crores during 2021 which is about 30.87% of the GVA of agriculture and allied sector and 6.17% of the total GVA.

Livestock although is half the size of crops, play a crucial role in driving the agriculture GVA growth. As per the first revised estimate, livestock sector contributes an annual growth rate of 6.12% at constant prices more than crop sector which is 1.9%. This factor alone should draw a significant attention from planners on contribution of livestock sector in driving the Indian economy. He said, "I strongly feel that this sector can increase its contribution to 20 crores in the next 5 years if more thrust is given for education and research. I have been appealing from several platforms to Hon. PM Shri Narander Modi Ji and our Cabinet Minister of Fisheries, Animal Husbandry and Dairying Hon. Parshottam Rupala Ji for a separate council for Veterinary Education & Research namely Indian Council of Veterinary & Fisheries Research (ICVFR)."

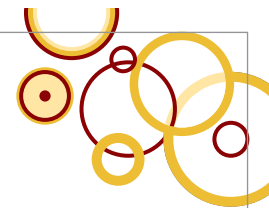


*Dr DVR Prakash Rao President, NAVS (I) along with Dr. Rameshwar Singh, Vice Chancellor Bihar Animal Sciences University, Patna and other officers of university distributed the awards and degrees to recipients*

Dr Prakash Rao congratulated and provided his best wishes to the outgoing Veterinary professionals of the University and appealed to contribute significantly for the growth and advancement of Veterinary Sciences, Profession and the country's economy."

### **DISCLAIMER**

The views expressed by various authors in this publication are their own and not necessarily that of the NAVS(I). Further, news items related to selected scientific and academic advances published in this newsletter are sourced from varied sources, including scientific journals, newspapers, websites etc. They are solely meant for developing educational awareness among the members of the Academy.



## SPLENDOUR SHINING FELLOWS

### Prof TV Anilkumar has been admitted as a Fellow by the National Academy of Agricultural Sciences

Prof TV Anilkumar, Scientist-G and Head, Division of Experimental Pathology, Biomedical Technology Wing of Sree Chitra Tirunal Institute for Medical Sciences and Technology, a national institute under the ministry of Science and Technology (Government of India) at Thiruvananthapuram has been admitted as a Fellow by the National Academy of Agricultural Sciences on 5<sup>th</sup> June 2023, based on his research and technology contributions.



He developed 'Cholederm', which is the first indigenous 'Class D' Medical device of animal origin that satisfied all statutory requirements of the Central Drugs Standards Control Organisation (Government of India) for manufacturing and marketing. Indeed, he pioneered a technology for recovering gall bladder extracellular matrix of farm animals and preparing tissue-graft scaffolds which promote faster healing of wounds with minimal scarring. The technology was successfully transferred to a start-up biopharmaceutical firm. Consequently, gall-bladder of farm animals, normally discarded as slaughterhouse waste became a highly value added pharmaceutical raw-material thereby generating additional income for pig farmers. He is also the first veterinarian practicing pathology in India who became a Fellow of the Royal College of Pathologists (2021, England).

Congratulations to Dr TV Anilkumar Fellow of NAVS(I) for recognition by National Academy of Agricultural Sciences.

### Outstanding Veterinarian Award to Prof Kishore

Dr PVS Kishore, Professor & Head of Veterinary Anatomy, College of Veterinary Science, Gannavaram of Sri Venkateswara Veterinary University, Andhra Pradesh was conferred with the "Outstanding Veterinarian Award" from Dr C K Rao Endowment Trust of Andhra Pradesh Veterinary Association in 2023 during the World Veterinary Day celebrations at Vijayawada on April 29, 2023. He received it from the Hon'ble Minister for Animal Husbandry, Andhra Pradesh, the Chief Guest on the occasion.



L to R: Dr S Ramalinga Raju, Trustee of Dr CK Rao Endowment Trust; Dr PVS Kishore, Awardee; Dr R Amarendra Kumar, Director of Animal Husbandry, Govt. of Andhra Pradesh; Dr Seediri Appala Raju, Hon'ble Minister for Animal Husbandry, Dairy Development & Fisheries, Govt. of Andhra Pradesh.

Congratulations to Dr Kishore, Fellow of NAVS for the Outstanding Veterinarian Award.

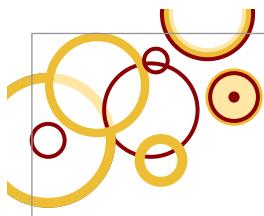
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## IN FOCUS:

### SURRA IN ANIMALS

## Surra in Animals: Present Scenario and Challenges



Rajender Kumar



Ruma Rani



Sanjay Kumar



L D Singla<sup>1</sup>

Parasitology Lab, ICAR-National Research Centre on Equines, Hisar-125001, India

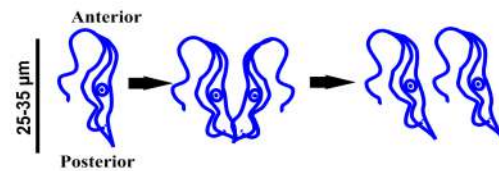
<sup>1</sup>Director, HRMC, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana

Animal trypanosomosis or surra caused by *Trypanosoma evansi* (a eukaryotic, unicellular, euryxenous, haemoflagellate organism) affects many species of domestic, companion and wild animals in Asia, Africa, Central and South America. Every year, it results in the death of countless animals, severe animal morbidity, and significant production losses. In India, a total direct and indirect annual estimated economic loss caused by surra on livestock productivity is estimated to 671.1 million US \$ (Kumar et al., 2017: Veterinary Parasitology: Regional Studies and Reports, 10:1-12). This arthropod-borne disease is frequently speckled in horses, dogs, buffaloes and camels, which is transmitted mechanically by hematophagous biting flies mainly by *Tabanus* and *Stomoxys*. *T. evansi* have been postulated to be originated from *Trypanosoma brucei* through deletion of the maxicircle kinetoplast DNA which gave *T. evansi* the ability to spread mechanically by flies and outside the tsetse belt. In Brazil, vampire bats are also related to an unusual form of biological transmission. Additionally, carnivores are primarily transmitted by per-oral contact. This parasite multiply in the host by binary fission. In areas with a high prevalence, mass treatment programmes, host testing and treatment are advised.

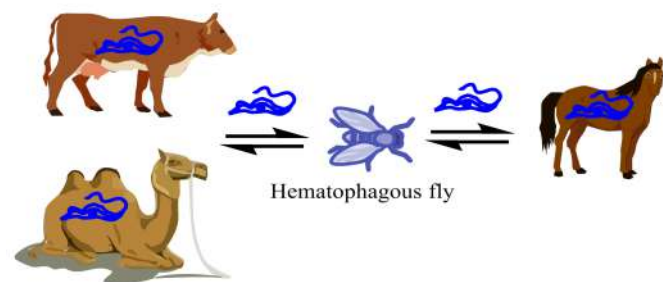
### Status in Animals and Humans

Horses and camels are generally considered to be the most susceptible species, and often develop severe illness, with high case fatality rates, even in endemic regions. The severity of the clinical signs can vary with the strain of *T. evansi* and with host factors including previous exposures, stress, concurrent infections and general health. The surra disease is prevalent in almost all agro-climatic zones of India. The disease prevalence in different livestock species viz., cattle, buffalo, goat, equine, camel and pig was found ranging from 0.95 to 22.05 per cent.

Humans naturally resist several trypanosome species, including *T. evansi* owing to have trypanolytic activity of the serum protein apolipoprotein LI. Nevertheless, there have been a few instances of *T. evansi* related infections in humans and a small number of infections with atypical trypanosomes show their emergence toward zoonosis.



Multiplication of parasite in host by binary fission



Mechanical transmission of parasite by biting flies

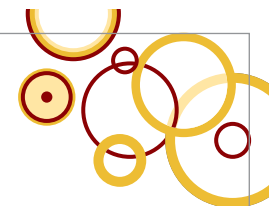


Peroral transmission to carnivores

### Clinical hallmarks

The disease in livestock (such as cattle, buffalo, camel, horses, pigs, sheep and goats) is manifested by progressive anaemia, weight loss and icterus with progressive weakness and lethargy. Horses occasionally exhibit oedema, especially in the lower body, urticarial plaques, and petechial haemorrhages of the serous membranes. Buffalo and camel have both been reported to have abortions. Horses and dogs frequently exhibit nervous symptoms. The illness results in immunodeficiencies and death may occur in 2 weeks to 4 months, and chronic infections may last 2-3 years.





## How to diagnose?

Numerous conventional approaches, including parasitological, serological and molecular diagnostic assays are available for the diagnosis of surra. However, parasitological tests (blood examination) can satisfactorily detect only acute or sub-acute infections due to their low sensitivity. The chronic/ latent infection can be diagnosed by serological tests which include card agglutination test (CATT), ELISA, immunoblotting, immunofluorescence test and immunochromatographic test. Molecular diagnostics assays include polymerase chain reaction (PCR), loop-mediated isothermal amplification (LAMP) assay, polymerase spiral reaction assay etc. which are used for the diagnosis as adjunct tests for confirmation. Animal inoculation studies in rats or mice may be used, if necessary, to detect low levels of parasites, such as when importing an animal into surra-free regions; however, it is generally discouraged due to ethical issues.

## Treatment strategies and new drug discovery

Surra can be treated with antiparasitic (trypanocidal) drugs mainly quinapyramine methyl sulfate/chloride, isometamedium chloride, and diminazene aceturate. The therapeutic efficacy and toxicity of a particular drug may vary from species to species. Depending on the drug dose and other factors, treatment may be clinically curative without complete elimination of parasite, and relapses may occur. Presently, drug resistance is an emerging issue which could not be ignored. In cases with neurological signs, treatment is rigorous, although some newer drugs may cross the blood-brain barrier to some extent.

The need for new alternatives is highlighted by a number of problems with the currently available treatments for trypanosomes, including drug resistance, relapse of the infection, toxicity, cost, and limited drug availability. Traditional methods for finding drugs to treat trypanosomes take a long time and rely on a programme of step-by-step synthesis and screening for a large number of compounds to optimize activity profiles. In the present scenario, gene target-specific bioactive compounds, *in-silico* method and nanotechnology approach have been used and have shown promising therapeutic potential against *T. evansi*. At ICAR-National Research Centre on Equine, Hisar several bioactive compounds, naphthoquinone derivatives, anti-cancer drugs, anti-viral drugs and different antibiotics are assessed for their antitrypanosomal capabilities as well as their mechanistic analysis have been carried out to find better therapeutic alternatives. Additionally, the utilization of combinatorial pharmacological approaches is used to achieve synergistic effects and to avoid harmful effect. A new method of drug delivery called nanoparticulate drug delivery has also been employed to reduce cytotoxicity while simultaneously improving the therapeutic and sustainable effects of the medicine. Moreover, nanoformulations of naphthoquinones have been found more effective at its lower dose concentration that reduces the toxic effect of drug, as also confirmed by oragno-toxicity studies conducted in the lab.

There is currently no vaccination available to prevent animal

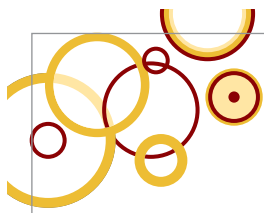
trypanosomosis, due to the fact that parasite can evade any significant antibody response due to the dense surface presence of the Variable Surface Glycoprotein (VSG) and the endless gene repertoire that codes for VSG.

## Challenges

- Complex biology of *T. evansi*
- Lack of epidemiological/disease distribution data across regions and hosts
- Lack of sensitive and specific pen side diagnostics
- Antigenic variation
- Limited number of availability of drugs and associated issues like drug safety and toxicity
- Drug resistance
- Limitations in Vaccine development
- Limitations in control of vectors
- Socio-economic status of farmers

The trypanosomes are primitive eukaryotes and have complex biology comprising peculiar organisation of metabolic pathways (normal and alternate), unique enzymes having structure and functional dissimilarity with the host. These features offer opportunities as well as challenges for discovery of new potent drug molecules against these parasites. Over the years, researchers have investigated the ultrastructure and proteome of *T. evansi* and reported that it possesses unique kinetoplast DNA structure and expressed hundreds of membrane-bound transport proteins that allow them to take up nutrients, establish ion gradients, translocate compounds from one intracellular compartment to another, efflux metabolites, and take up or export the drugs. Nowadays, *in silico* methods are in use in drug discovery processes to identify new potential drug molecules. Various virtual drug libraries are available for sorting out the target specific drug molecules. Numerous trypanosomal proteins have been identified as potential targets and many of these have been characterized crystallographically. These protein crystal structures can serve as structural models for *in-silico* screening using molecular docking techniques. Over the years, efforts are also in process in several laboratories to formulate new treatment profiles, combination therapy, use of medicinal plants, synergistic and antioxidants that have not yet succeeded with successful outcome. There is need of an assay to determine drug resistance against various *Trypanosoma* isolates causing disease in a particular geographical region. For development of vaccine, protein and DNA immunization approaches may be explored due to the ease of construction of the vectors, the stability of DNA and the ability to enhance the immuneresponse using nano-delivery and co-delivery of genes encoding cytokines.

Inadequate information on the epidemiology and subsequently the inaccurate data about the magnitude of the disease in the country make surra monitoring and strategic control planning difficult. For combating surra effectively, integrated approach is the need of hour. More cross-sectional data is needed comprising season, age, species, husbandry practices, history of treatment and vector distribution to formulate effective control measures of the disease in the region. Further, awareness among veterinarians with latest know hows and linkage with diagnostic laboratories and R & D institutes need much attention.



## LEST WE FORGET:

### OBITUARY

Dr Jitendra Singh Bhatia, former ADG (Education), ICAR left for heavenly abode on May 28, 2023. He was born in Shimla on May 29, 1942. He graduated in Veterinary Sciences from College of Veterinary and Animal Science, Bikaner (Rajasthan) in 1965. He did his Masters in Physiology from All India Institute Medical Sciences, New Delhi and PhD from Sukhadia University Udaipur. His subject of specialization was Veterinary Physiology. Dr Bhatia served many institutions in different capacities and was associated with many national level academic and scientific bodies. He started his career as an academican from Veterinary College Bikaner, moved to Veterinary College Hisar (Haryana) as Professor Physiology. Thereafter, he served as ADG (Education), ICAR, New-Delhi. He is recipient of ICMR Fellowship for perusing his Master's degree at AIIMS, New Delhi and Life Time Achievement Award, Rajasthan Veterinary Association. Besides, 50 scientific publications, he also published 25 articles on veterinary education and a book "Glimpse of Veterinary Education in India" in 2015. After retirement he also served as Professor of Physiology at Apollo Veterinary College, Jaipur and Khalsa Veterinary College, Amritsar.



The NAVS (I) extends heartfelt condolences to bereaved family for their unimaginable loss and prays Almighty God for eternal peace to the departed soul.

## FOOD FOR THOUGHT:

### SPOTLIGHT ON RESEARCH AND CARE OF LIVESTOCK

#### Focus more on research in animal husbandry, fisheries for overall farm sector growth: Tomar to farm scientists

Union Agriculture Minister, Narendra Singh Tomar asked farm scientists to focus more on research in areas of animal husbandry and fisheries, to boost production and their contribution in the overall farm sector growth while virtually addressing at the 95<sup>th</sup> foundation day of ICAR on July 16, 2023. The Minister noted that the contribution of animal husbandry and fisheries in agriculture GDP is higher than that by crops. Therefore, he said, "I feel we should pay more attention towards research in animal husbandry and fisheries." Which are growing at 7.7% and 8.8%, respectively. This would help in increasing their share in the overall farm GDP and also strengthen the rural economy.

#### CPCSEA changes as CCSEA

The 'Committee for the Purpose of Control and Supervision of Experiments on Animals' (CPCSEA) has now been defined as 'Committee for Control and Supervision of Experiments on Animals' (CCSEA) from 2023 onwards. To enable fast track processing of the research protocols on large animals, the meetings of CCSEA are now held every month (instead of once in two months as per earlier schedule).

## INSTITUTIONAL LIFE MEMBERS



Bihar Animal Sciences University  
Patna



Dau Shri Vasudev Chandrakar Kamdhenu Vishwavidyalaya, Durg



Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana



Kamdhenu University Gandhinagar



Karnataka Animal, Fishery & Veterinary Sciences University, Bidar



Kerala Veterinary and Animal Sciences University Pookode



Khalsa College of Veterinary & Animal Sciences Amritsar



Lala Lajpat Rai University of Veterinary & Animal Sciences Hisar



Maharashtra Animal & Fisheries Sciences University Nagpur



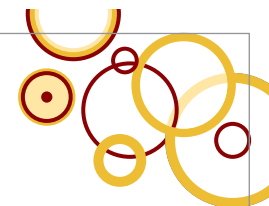
Rajasthan University of Veterinary & Animal Sciences Bikaner



Sri Venkateshwara Veterinary University Tirupati



Uttar Pradesh Pandit Deen Dayal Upadhyaya Pashu Chikitsa Vigyan Vishwavidyalaya Evam Go-Anusandhan Sansthan, Mathura.



## ACADEMIA

### SCHOLASTIC CONNECTIONS

#### World Veterinary Day- 2023 Celebrated as Part of Azadi Ka Amrit Mahotsav

For the first time in the history of Veterinary profession, the Department of Animal Husbandry and Dairying, Government of India in close collaboration with Veterinary Council of India (VCI) celebrated World Veterinary Day- 2023 as a highly impressive event on 29th April, 2023 at Vigyan Bhawan, New Delhi in order to recognize and celebrate the important roles of Veterinarians in animal and human health and ecology. The theme of World Veterinary Day for the year 2023 was "Promoting Diversity, Equity, and Inclusiveness in the Veterinary Profession."

Shri Parshottam Rupala, Union Minister of Fisheries, Animal Husbandry and Dairying, Government of India graced the event with his presence as Chief Guest in august presence of Dr Sanjeev Kumar Balyan, Minister of State of Fisheries, Animal Husbandry and Dairying, Shri Rajesh Kumar Singh, Secretary, Department for Promotion of Industry and Internal Trade, Dr Abhijit Mitra Animal Husbandry commissioner and Dr. Umesh Chandra Sharma, President, Veterinary Council of India (VCI) among other dignitaries.



Shri Parshottam Rupala, Union Minister of Fisheries, Animal Husbandry & Dairying, Government of India addressed the gathering and highlighted the importance of India's livestock sector in the national economy. Shri Parshottam Rupala launched the VCI portal, released the draft MSVPR, 2023, and a list of outstanding Veterinarians in the event. Dr. S.K. Balyan highlighted the role of veterinarians in India making significant contributions to the national economy by ensuring the health and productivity of livestock, which forms a crucial part of the country's agricultural sector.

Dr. Umesh Chandra Sharma, President, VCI, welcomed the guests and Veterinary officials participating from the States and apprised the gathering about the work and recent initiatives taken by Veterinary Council of India.

Around 1200 veterinary professionals from diverse fields i.e Veterinary officers (all states/UT), Indian Army (RVC), Educationalist (Veterinary College/ICAR/university), Administrators (IAS, IPS, IFS, IRS) and Private Practitioners attended the event, and 75 veterinarians were honoured as outstanding veterinarians. Dr. DVR Parkash Rao was one of the

veterinarians to receive the 'Distinguished Veterinarian of India' award by the Veterinary Council of India.



Technical sessions were organized on One Health, Veterinary interventions for Wildlife Conservation and management, Role of Veterinarians in India Army. The technical session was chaired by Dr Inderjeet Singh, Vice Chancellor, Guru Angad Dev Veterinary and Animal Sciences University, Ludhaina.

Secretary, VCI thanked all the dignitaries and Veterinary officials participating from the States/ UTs and congratulated the department for the successful event.

#### 4<sup>th</sup> Convocation of Kerala Veterinary & Animal Sciences University

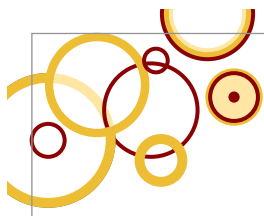
The fourth convocation of the Kerala Veterinary & Animal Sciences University, Pookode, Wayanad, was organized on May 20, 2023. The Honourable Chancellor of the University Shri. Arif Muhammad Khan, distributed gold medals, various endowment awards and certificates to the students who earned the highest achievements.

Hon'ble Smt J Chinchurani, the University Pro-Chancellor and Minister of State Animal Husbandry and Dairy Development and Dr Bhupendra Nath Tripathi, Deputy Director General (Animal Sciences), Indian Council of Agricultural Research (ICAR) were the chief guests of the function.



Gold medals to 19 meritorious students, 20 endowment awards, various graduation certificates to 265 students, post-graduation certificates to 80 students, doctorate certificates to 19 students and diploma certificates were distributed on the occasion.

University Vice Chancellor, Dr MR Saseendranath, Registrar, Dr P Sudhir Babu, Director of Academic and Research, Dr C Latha, Director of Entrepreneurship, Dr TS Rajeev, Faculty Deans, Dr K Vijayakumar and Dr SN Rajakumar, other Directors, University Management Council and Academic Council members participated in the Convocation.



## Indian Society for Advancement of Canine Practice-2023 (ISACP-2023) at Durg

College of Veterinary Science & A.H., Anjora, Dau Shri Vasudev Chandrakar Kamdhenu Vishwavidyalaya, Durg, Chhattisgarh organized XIX Annual Convention of Indian Society for Advancement of Canine Practice (ISACP) & National Symposium on "Recent Advances in Diagnostic, Therapeutic and Nutritional Management of Canine" from 20-22 April, 2023 at Durg. Dr SK Tiwari, Dean of the College and Fellow of NAVS was the organizing Secretary of this national conference of ISACP-2023.



Welcome speech by Dr. S.K.Tiwari, Dean of Veterinary College Durg and Organizing secretary ISACP-2023

On this occasion about 250 delegates from 15 different states of the country participated. Col. (Dr.) Prof. N.P. Dakshinkar, Hon'ble Vice Chancellor, DSVCKV, Durg presided over the function and Prof. Naresh H. Kelawala, Hon'ble Vice Chancellor, Kamdhenu University, Gandhinagar (Gujarat) was guest of honour in the inaugural function.



Closing ceremony ISACP-2023: Dr. S.K. Tiwari, Dean of Veterinary College Durg and Organizing secretary ISACP-2023, Prof. S. Prathaban President ISACP, Dr. N.P. Dakshinkar HVC DSVCKV, Shri Pradeep Sharma Advisor to Hon'ble CM CG Govt., Shri Chitij Chandrakar President AIPC and Dr. S.P. Ingole, DIDSVCKV, Durg

In the closing ceremony Hon'ble Vice-Chancellor, Prof. (Dr.) Col. N.P. Dakshinkar presided over the function and Shri Pradeep Sharma, Agriculture Advisor to Hon'ble Chief Minister, Govt. of Chhattisgarh and Shri Kshitij Chandrakar, President Professional Young Congress were guest of honour.

## Release of Web of Science Journal Citation Report 2023

On 28<sup>th</sup> June 2023, Web of Science (Clarivate Analytics) published Journal Citation Report (JCR) 2023 that awards journal impact factor (JIF) 2022. This year's list includes 9491 journals from more than 3000 disciplines. The journals that met 24 defined rigorous quality criteria, were evaluated further for the award of an impact factor. Furthermore, the JCR 2023 release presents the JIF with one decimal place, rather than three.

This year highest impact (254.7) was awarded to the journal published from USA 'CA: A Cancer Journal for Clinicians'. In contrast, the Indian origin journal with highest impact factor was 'The Indian Journal of Paediatrics' with impact factor 4.3. Besides, more than 20 Indian Medical journals were awarded JIF in the JCR 2023 release.

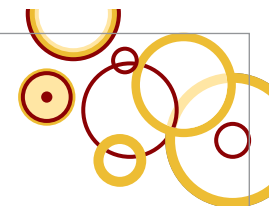
This year only 2 Indian journals from the Animal and Veterinary Sciences were awarded JIF; Indian Journal of Animal Research (0.5) and Indian Journal of Animal Sciences (0.4). Besides, Indian Journal of Fisheries could get JIF of 0.5. However, Journal with highest JIF in the Animal and Veterinary Sciences category was Veterinary Quarterly (JIF 6.4). Similarly two Indian journals namely, Legume Research (JIF 0.8) and Indian Journal of Agricultural Sciences (JIF 0.4) were included in JCR 2023 release.

The JCR 2023 release data indicates poor research output by the Indian Animal, Veterinary and Agricultural sectors. Besides, none of the journals published by the various Indian Scientific Societies or Universities could qualify rigorous criteria set by the web of science (Clarivate analytics) for the evaluation of JIF which is of grave concerns for the Indian Veterinary and Animal Scientific community. (Contributed by Dr. Ashwani Kumar, Professor, Department of Veterinary Surgery and Radiology, Guru Angad Dev Veterinary and Animal Sciences University (GADVASU), Ludhiana-141004, Punjab, India)

## Indian Drugs Controller approves first indigenously developed animal-derived tissue engineering scaffold for healing skin wounds with minimum scarring

The first indigenously developed tissue engineering scaffold from mammalian organs, an animal-derived Class D Biomedical device that can rapidly heal skin wounds at low-cost with minimum scarring, has received approval from the Indian Drugs Controller.

Researchers of the Division of Experimental Pathology in the Biomedical Technology Wing of Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), an autonomous institution of the Department of Science and Technology (DST), developed an innovative technology for preparing tissue engineering scaffolds from mammalian organs. Investigations conducted in the division in the past 15 years under the leadership of Prof. T. V. Anilkumar decellularised pig gall bladder and recovered extracellular matrix. Membrane forms of the scaffold, identified as *Cholederm*, healed different types of skin wounds



including burn and diabetic wounds in rat, rabbit, or dog faster than similar products currently available in the market with minimal scarring as proved by several in-depth laboratory investigations focusing Type I and Type III collagen.

It is expected that with the introduction of *Cholederm* to the Indian market, the treatment cost can be reduced from Rs 10,000/- to Rs 2,000/- making it more affordable to the common man. Moreover, the technology for recovering extracellular matrix from the gall bladder is not available to others and it gives a fair chance for competition in the international market. In addition, the above findings made gall bladder of pigs, normally a slaughterhouse waste without any monetary value, a highly value-added raw material for biopharmaceutical industry thereby creating an additional income-generating opportunity for pig farmers.

However, the application of membrane forms of the scaffold for treating cardiac injury was cumbersome. Therefore, the team is developing injectable gel formulations of the scaffold that permits transvenous on-site delivery of the scaffold and for surface modification of polymeric medical devices. "Further investigations in multiple species of animals are necessary to confirm the claim. If true, these observations are likely to revolutionize the contemporary modalities of managing patients suffering from myocardial infarction," said Prof. T. V. Anilkumar.

(<https://dst.gov.in/indian-drugs-controller-approves-first-indigenously-developed-animal-derived-tissue-engineering>)

## TIDBITS SOUPCON

### More than 18,000 cows are dead after dairy farm explosion in Texas Panhandle



More than 18,000 cattle were killed in a massive explosion on April 10, 2023 at South Fork Dairy Farm in Dimmit, about 66 miles South of Amarillo in the Texas Panhandle. According to the Animal Welfare Institute, the incident is the deadliest fire involving cows in nearly a decade. A statement provided by the Texas Association of Dairymen on behalf of the dairy industry expressed condolences for the incident. Castro County is the second-highest milk-producing county in the state and has more than 59,361 cows. According to a United States Department of Agriculture report, the county produced more than 147 million pounds of milk in February. Texas Agriculture Commissioner Sid

Miller called the incident devastating but said that he was grateful there were no further injuries to workers or loss of human life. The 18,000 cows killed represent just a fraction of the 625,000 dairy cows in Texas. Including beef cows, there are 13 million in the state, according to the Texas Almanac. Large amounts of cattle have died in Texas before. During Winter Storm Goliath in 2015, 35,000 cattle froze to death. The state fire marshal's office is conducting an investigation into the cause of the fire. Reports said that the number of cattle killed in the incident was almost three times the number of cattle slaughtered every day across the US. (<https://www.texastribune.org/2023/04/13/texas-dairy-farm-explosion-cows/>)

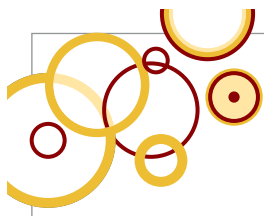
### The endangered cattle 'Punganur dwarf' makes a comeback

Punganur cows are one of the smallest indigenous humped cattle breed native to the Punganur town of Chittoor District of Andhra Pradesh, India. These cows are known for their small size just around 70-90 cm tall at the withers and weighing less than 200kgs. They are drought resistance; however, their milk yield is relatively low compared to larger dairy breeds. The milk of the Punganur cow is known for its high fat content which is 8 per cent, compared to the 3 to 3.5 per cent of other breeds. They are seen as a symbol of pride and cultural heritage in the region.



*Cute Miniature Cows in Villa: Nadipathy Goshala*  
([https://youtu.be/2k4wCq3oij0?si=Mp7oJ\\_XeubDq95DL](https://youtu.be/2k4wCq3oij0?si=Mp7oJ_XeubDq95DL))

Like many indigenous breeds, the Punganur cattle also faced an existential threat due to the push for an increase in milk production and farmers' income. Compared to hybrid cows, which are capable of producing milk several times more than indigenous ones, the Punganur cattle suddenly became a liability for farmers who started abandoning them. It got so bad that at one point the known number of Punganur cattle had dropped below 50. Efforts have been made to conserve and promote this unique cattle breed to prevent its decline. In 2020, the Andhra Government had launched Mission Punganur for the conservation of the breed. The Andhra Government also sanctioned Rs 69.36 crores exclusively for the reproduction of Punganur cattle through *In vitro* Fertilization (IVF) method. Scientists were forced to take the surrogacy route as there was a scarcity of healthy and graded Punganur cows that could produce offspring. The project envisages the production of at least 8.5 off-springs from each cow in five years compared to 2.5 off-springs during the same period from each cow under normal circumstances. The Livestock Research Station, Palamaner, Chittoor district, attached to Sri Venkateswara Veterinary University Tirupati has been assigned the responsibility to preserve this breed of cattle.



## **APPI and AHSSOH are comprehensive efforts to address animal pandemics in a holistic manner**

Union Minister for Fisheries, Animal Husbandry and Dairying, Shri Parshottam Rupala Ji on April 14, 2023 launched the Animal Pandemic Preparedness Initiative (APPI) and World Bank-funded Animal Health System Support for One Health (AHSSOH) to enhance India's preparedness and response to potential animal pandemics, in line with the One Health approach. This initiative will help to improve veterinary services and infrastructure, disease surveillance capabilities, early detection and response, build the capacity of animal health professionals, and awareness among farmers through community outreach.



*Parshottam Rupala Launches APPI & World Bank-funded Animal Health System Support for One Health*

Speaking on the occasion, the minister said, "India is home to a diverse animal species, and the livestock sector plays a critical role in the country's economy and food security. However, we are also vulnerable to threats posed by emerging and zoonotic diseases. The APPI and the World Bank-funded AHSSOH are the comprehensive efforts to address animal pandemics in a holistic manner. By strengthening our animal health systems and implementing the One Health approach, we can better prevent and control zoonotic diseases, which not only impact the health and welfare of our animals but also have significant economic impact and human health concerns."

Addressing the gathering, Dr L. Murugan, Hon'ble Minister of State of Fisheries, Animal Husbandry and Dairying said that "The launch of the APPI and AHSSOH project is a step closer to addressing the animal pandemic and preparedness to handle any unknown infections in future. By working together to implement One Health initiatives, we can promote sustainable and healthy fisheries that benefit both people and the environment."

Addressing the gathering, Shri Rajesh Kumar Singh, Secretary, Department of Animal Husbandry & Dairying, stated "In order to move towards preparing the system for meeting any pandemic like exigency, various actions are to be coordinated including strengthening of surveillance of disease, creating models for disease forewarning, improving R&D ecosystem and diagnostic capacities, streamlining regulatory ecosystem, providing better responses in the field and mobilizing resources. Department of Animal Husbandry and Dairying has initiated important changes for improving livestock systems and programs in the country. APPI is one such initiative to cover all aspects of disease prevention, control and pandemic preparedness comprehensively. The key elements include integrated disease surveillance & monitoring, early warning & response, Vaccine/diagnostics, R&D and production, and ecosystem coordination with funding and regulatory framework enablers."

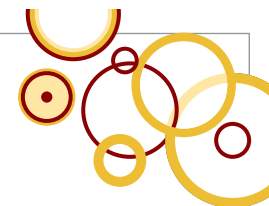
(<https://dailysach.in/ministry-of-fisheries-animal-husbandry-dairying/fahd-minister-shri-parshottam-rupala-launches-animal-pandemic-preparedness-initiatives-and-world-bank-funded-animal-health-system-support-for-one-health/>)

## **After lumpy skin disease, Glanders virus hits Punjab, Himachal, Rajasthan and Haryana**

After lumpy skin disease, now Glanders virus has hit Punjab state. Within a few days, after the report from Bathinda, it has taken Amritsar and Ludhiana under its ambit. As this dangerous virus spreads very fast, the Animal Husbandry Department has issued a notification declaring 5 km radius of the virus infected area in Bathinda and Ludhiana. The department has declared 25 km radius as a screening zone, whereas physical/sero surveillance has been started in the radius outside 25 km of screening zone. The first case of Glanders was reported in Hoshiarpur's BSF in February 2023, and two new cases have been confirmed in May. Glanders is a dangerous disease, and when the virus is confirmed, there is no option but to kill the infected horse by giving it an injection. This is done so that the virus may not infect other animals or transmits in humans. Apart from Punjab, the outbreak of Glanders also increased in the neighbouring states of Himachal Pradesh and Rajasthan. Recently, after the death of three horses due to Glanders in Kullu's Peej, two horses were killed by injection after the virus was confirmed. The horse virus has knocked in Rajasthan's Jaipur, Jhunjhunu, Alwar and Bikaner. At the same time, horses have been infected in many districts of Haryana, after which the Animal Husbandry Department formed committees and started a campaign to make horse breeders aware in the area (<https://sundayguardianlive.com/news/after-lumpy-skin-disease-glanders-virus-hits-punjab-himachal-and-haryana>).

## **Avian influenza outbreaks in animals pose a risk to humans**

The recent outbreaks of avian influenza have caused devastation in animal populations, including poultry, wild birds, and some mammals, and harmed farmers' livelihoods and the food trade. Although largely affecting animals, these outbreaks pose ongoing risks to humans. The Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO), and the World Organisation for Animal Health (WOAH) are urging countries to work together across sectors to save as many animals as possible and to protect people. Avian influenza viruses normally spread among birds, but the increasing number of H5N1 avian influenza detections among mammals-which are biologically closer to humans than birds are-raising concern that the virus might adapt to infect humans more easily. In addition, some mammals may act as mixing vessels for influenza viruses, leading to the emergence of new viruses that could be more harmful to animals and humans. FAO, WHO and WOAH have been convening experts to review the situation, monitoring the rapidly evolving nature of the virus, and updating recommendations for curbing its spread, in addition to working with countries in preparedness and response, and facilitating collaboration across countries and sectors. The spread of the virus to five continents speaks the need for global cooperation and alertness to protect animals, people and economies. Read more at WHO. (<https://www.fao.org/in-action/ectad/news-and-events/news/animal-disease-outbreaks-and-news-asia-2023-07-19>)



## BROOKE HOSPITAL FOR ANIMALS (INDIA)

*An Organisation Committed to Equine Health & Welfare and the Development of the Marginalised Equine Owning Community*

Brooke Hospital for Animals (India) or Brooke India (BI) is an affiliate of the Brooke, which is a United Kingdom-based international equine charity, focusing on the welfare and care of equines (horses, donkeys and mules). Brooke's vision is of a world in which working horses, donkeys and mules are free from suffering and have a life worth living.



*Renu Devi, equine owner from Sonipat, with her mule*

BI's journey in India towards equine welfare started two decades back when it was registered as a Section 8, Not for Profit Company under the Companies Act. Equids in India mostly work in harsh environments like Brick Kilns and face never-ending health troubles. This situation was mainly due to a lack of financial resources and knowledge on good management practices amongst the equine owners and insufficient understanding of equine health care by Local Health Providers (LHP).

BI's initial step as an intervention involved providing free veterinary services at different congregation points and organising Intensive Equine Care Camps (IECC) to spread awareness on welfare oriented husbandry practices and preventable injuries & diseases. From 2006 onwards, BI started focusing on establishing permanent intervention units and started expanding its operations to other states such as Andhra Pradesh, Rajasthan,



*IECC Camps Luniyavas donkey fair*

Hyderabad and other parts of Uttar Pradesh. The BI team also introduced Community Engagement for exploring sustainable solutions for equine welfare and community development. This period saw the formation of male and female Self Help Groups called Equine Welfare Groups, the use of Participatory Rural Appraisal tools and increasing community participation. BI team saw the congregation of equines, equine owners, traders and local service providers at Equine Fairs as an excellent opportunity for a large-scale intervention. BI teams intervened to spread awareness on equine welfare issues, provide quality training on equine care and ensure equine welfare-friendly facilities and resources at these fairs.

BI teams also focused on strengthening the local service delivery system for working equines, including quality farriery services for hoof care, accurate and appropriate veterinary first aid during health emergencies, hair clipping, and welfare-friendly saddlery material. They also ensured compassionate handling while

delivering any of the services. These interventions were incorporated in Brooke's Theory of Change, in 2016. This theory promotes strengthened animal health policy environment and thriving equine owning communities.



*Equines working at Brick Kilns*

Currently, BI operates directly through 32 Equine Welfare Projects (EWP) across 10 States and Union Territories in India, thereby reaching out to approximately 3.16 lakhs working equids and the equine owning community that owns/rears them. BI has multi-disciplinary teams with core strengths in Animal Health & Welfare, and Community Development, including Human behaviour Change, Gender Empowerment, Livelihoods and Resilience. Some of the notable achievements made by the team over the years include:

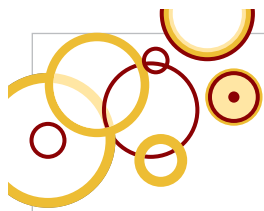
- Advocating the revision of Glander's Compensation- From INR 50 to 25,000 for horses and INR 16000 for mules/donkeys
- Inclusion of Equids in Livestock under the National Livestock Mission Schemes and thereby making them eligible for equine insurance.
- Advocating the issue of Animal Welfare Board of India (AWBI) advisories for Equine Fairs, Shrines & Pilgrim sites
- Introducing BI's innovative projects for ensuring sustainable availability of green fodder, through Azolla cultivation and Hydroponics techniques successfully across its intervention areas.
- BI teams worked throughout the COVID 19 pandemic. They supported the community by providing emergency treatments, alternative livelihood options, first aid kits and feed & fodder for the equines.

In the upcoming years, BI will focus on strengthening the Community Based Organisations, linkages with government welfare schemes, have robust disaster response capacity, advocate policy revisions on equine welfare issues, and enhancing the knowledge and skills of veterinary students on animal welfare, compassionate handling and upskilling the local farriers and animal health providers.



*Quality Farriery Services*

BI's team is proud of its journey and aspire to keep bringing a positive change for vulnerable and marginalised working equines and the rural communities, whose lives we have not touched yet.



Introducing

Zydus AHL

For the First Time in India

**VetPlasma™**

**PLASMA  
VOLUME  
EXPANDER**

### INDICATIONS AND USAGE

VetPlasma is used primarily to treat acute hypovolemia & shock in conditions like Blood loss, diarrhoea, etc

### DOSAGE AND ADMINISTRATION

Daily dose and rate of infusion depend on the animal's blood loss, hemodynamics and on the hemodilution effects

#### Recommended Dose:

##### Large Animals (Cattle & Horse) :

8-10 ml/kg body weight/day, up to maximum 20 ml/kg

##### Small Animals (Dog, Cat, Pig, Sheep & Goat) :

10-20 ml/kg body weight/day

Administer by intravenous infusion only.

The initial 10 to 20 ml should be infused slowly, keeping the animal under close observation due to possible anaphylactoid reactions

### PRESENTATION

250 ml & 500 ml plastic bottle.



**Restores Blood Volume Saves Life**

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Award Winner 2015, 2016, 2018  
Best Company-India, Africa, Middle East

**Zydus**  
dedicated to life

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