NATIONAL ACADEMY OF VETERINARY SCIENCES (INDIA) (REGD.)

(Registered under Societies Registration Act. XXI of 1860 – Registration No. S/24471 of 1993 dt. 7-7- 93)
Admin Block, Room No 5, DMS Complex, Shadipur, West Patel Nagar, New Delhi-110008

MINUTES OF GENERAL BODY MEETING OF NATIONAL ACADEMY OF VETERINARY SCIENCES (INDIA), HELD ON 08 MAR 2025 AT 11.30 AM AT KARNATAK VETERINARY ANIMAL & FISHERIES SCIENCES UNIVERSITY, HEBBAL, BENGALURU

The General Body (GB) meeting of National Academy of Veterinary Sciences (India) was convened on 08 Mar 2025 at 11.30 A.M. Since, the quorum for the GB Meeting was not complete; hence, the meeting was adjourned and reconvened after half an hour.

The President, Dr DVR Prakash Rao welcomed the Fellows and conveyed his gratitude for their presence. He apprised the house regarding the salient achievements of the Academy in the past one year. The Secy Gen read out the Annual Report along with up-to-date Financial Statement (Incl Audited Report) of the Academy.

Minutes of the last General Body Meeting held on 01 Jul 2023 at 2.30 PM at GADVASU, Ludhiana (Punjab) were readout and confirmed.

Proposed by – Col Tej Ram (Retd), Seconded by – Dr JM Kataria.

Progress on pending points from previous GB Meeting

(a) Role of NAVS (I) in implementation of Continues Veterinary Education (CVE) and Establishment of "Veterinary Extension Research Institute" at DMS Complex, New Delhi – The President apprised the house that based on the concept notes received from GC members, he had submitted the proposal to Shri Purshottam Rupala ji, the Hon'ble Cabinet Minister of Fisheries, Animal Husbandry and Dairying, for grant of budget to the Academy to engage NAVS (I) pool of experts for various training activities concerning Continues Veterinary Education (CVE). The Hon'ble Minister after due deliberation with the President, expressed his views to prioritize initiation of proposal for establishment of ICVR and emphasized that the rest of the requirements of the Academy will fall in place. Accordingly, the President submitted a note on the subject to the Hon'ble Minister. The case is required to be taken up with the New Cabinet Minister.

(b) Joint Activities in Collaboration with Other Organizations/Institutions
As follow up action point of a Joint Seminar held on 28 Apr 2023 in collaboration with Brooke India on Continues Veterinary Education (CVE). Two Short Term Courses on "Livestock Health, Issues and Possible Solutions" for 20 Field Veterinarians deputed by Director, Animal Husbandry Department, Govt of Punjab, were conducted during Aug 2024

and Jan 2025 by GADVASU, Ludhiana. The Courses have been sponsored by Brooke India.

On the similar lines, two short term courses have been planned to be conducted by TANUVAS, Chennai during Mar 2025

3. The agenda points for ratification by the GB are as under:-

(a) **Nomination of Patrons of NAVS (I) Academy** - The President informed the house that in accordance with the decision taken during last AGBM held on 01 Jul 2023 at GADVASU, Ludhiana, the Hon'ble Cabinet Minister, Shri Purshottam Rupala ji Ministry of Fisheries, Animal Husbandry and Dairying was invited to be the Patron of our Academy vide our letter 05 Feb 2024. The Hon'ble Minister has conveyed his consent vide Ministry's email dated 21 Mar 2024. Subsequently, the Executive Committee of the Academy during its meeting on 28 May 2024, selected Dr KM Bujarbaruah as Patron of the Academy for the duration of present Governing Council. A formal invitation to Dr KM Bujarbaruah was extended vide our letter dated 22 Jul 2024. Dr KM Bujarbaruah has conveyed his acceptance vide his email dated 23 Jul 2024. However, with the change of Cabinet Minister, the Academy is required to invite the New Cabinet Minister to be the Patron

(b) **Appointment of Maj Gen Shri Kant SM, VSM (Retd) as Past President** – The President, Dr DVR Prakash Rao proposed that Maj Gen Shri Kant SM, VSM (Retd) to continue as Past President of the Academy.

Resolve – The GC approved the proposal.

(c) **Nomination of Editorial Board** – The President conveyed his appreciations to Dr LD Singla, the Editor of the Academy for his contributions in improving the quality of NAVS (I) Newsletter. On the recommendations of the Editor, an Editorial Board consisting of Dr LD Singla as Editor and Dr Jyoti Palod, Dr Ashwani Kumar, Dr D Thyagarajan and Dr Tapan Kumar Dutta as members was constituted.

(d) **Honours/ Awards** :-

(i) Academy Fellowship/Associate Fellowship/Membership –

(aa) Out of 44 applications received for Fellowship Award, 20 applicants have qualified for the award. Out of 13 applicants for Associate Fellowship Award, 11 applicants have qualified for the award. There are 25 applicants for Membership Award, 25 applicants have qualified for the award. List of recipients of Fellowship, Associate Fellowship and Membership awards enclosed

(ii) Academy Awards:- The following Scientists/Researchers have been selected by various committees and approved by the GC :-

(aa) Dr CM Singh Award - **Dr SK Ranjhan**

(ab) Dr DVR Prakash Rao Life Time Achievement Award cum Late Smt Sundari Prakash Rao Memorial Endowment Lecture – **Dr Khageswar Pradhan**

(ac) Dr RK Sharma Memorial Award for Excellence in Veterinary Extension Education - **Dr Jaswinder Singh**

(ad) Dr KK Baxi Outstanding Scientist Award for Excellence in Veterinary Sciences **– Dr Baljinder Kumar Bansal**

(ad) Young Scientist Award - **Dr Rajib Deb**

(e) Income/Expenditure Statement:-

(i) **Balance Sheet**:- Balance Sheet for the Financial Year 2023-24, duly audited by the CA, is enclosed herewith.

(ii) **Income from Associates**:-

(aa) Tamil Nadu Veterinary and Animal Sciences University (TANUVAS), has granted Rs. 5.0 Lakhs for Life Time Institutional Membership.

(ab) Dr KK Baxi, Former Dean College of Veterinary Sciences, Ludhiana has donated Rs. 10.0 Lakhs in Corpus for Dr KK Baxi, Outstanding Scientist Award for Excellence in Veterinary Sciences.

(ac) Brooke India, an Associate of our Academy has granted Rs. 3.0 Lakhs for the conduct of Joint Seminars/Workshops during the current financial year.

(ad) Animal Nutrition Society of India GADVASU, Ludhiana has donated Rs. 1.0 Lakh for Life Time Institutional Membership

(iii) **Financial Status**:- As on 31 Jan 2025, the Academy has Rs. 1,73,00,828/- (Rupees One Crore Seventy Three Lakhs Eight Hundred and Twenty Eight only) in **Fixed Deposit** and Rs. 6,41,658/- (Rupees Six Lakhs Forty One Thousand Six Hundred and Fifty Eighty only) **Cash in Bank**.

(f) Fancial Committee report – The Financial Committee Chaired by Dr Ashok Kumar, ADG (AS) ICAR recommended the following :-

Increase of Life Time Membership Fee

(aa)	Fellowship	-	From Rs. 8000/- to Rs. 10000/-
(ab)	Associate Fellowship	-	From Rs. 5000/- to Rs. 8000/-
(ac)	Membership	-	From Rs. 5000/- to Rs. 6000/-

Resolve – Approved by GC held on 18 Mar 2024.

Proposed by – Dr KML Pathak, Seconded by – Dr JM Kataria

4. **Info Points**

(a) NAVS (I) ELECTION : 2024-26

NAVS (I) election was held on 30 Nov 2023. The following Fellows were elected:-

(a) Dr DVR Prakash Rao	-	President
(b) Prof (Dr) AC Varshney	-	Vice President
(c) Maj Gen ML Sharma (Retd)	-	Secretary General
(d) Dr SK Gupta	-	Treasurer
(e) Dr Ashok Kumar	-	Member
(f) Dr Gaj Raj Singh	-	Member
(g) Dr Subodh Kumar Saha	-	Member
(h) Dr Jag Mohan Kataria	-	Member
(i) Dr Mandeep Sharma	-	Member
(j) Dr Neelam Bansal	-	Member
(k) Dr (Mrs) Varinder Pal Uppal	-	Member
(l) Dr Rajeswari Shome	-	Member
(m) Dr Ravindra Sharma	-	Member
(n) Dr Jyoti Palod	-	Member
(o) Dr Yashpal Singh Malik	-	Member
(p) Dr Vivek Kumar Gupta	-	Member
(q) Col Tej Ram (Retd)	-	Member
(r) Dr Manish Kumar Chatli	-	Member
(s) Dr Vipal Kumar Gupta	-	Member

(b) Management of NAVS (I) Website – The issue regarding nomination of a Coordinator for NAVS (I) website was discussed. The GC approved nomination of Dr YPS Malik as Coordinator of NAVS (I) website.

(c) Discussion on Establishment of ICVR- The President expressed his views that in line with the Prime Minister's vision of transforming India to a developed country by 2047. The Academy will formulate a vision document "Amrit Kall 2047". The following committee has been constituted for the above purpose. The committee will review the Govt policies pertaining to Veterinary Education, Research(including establishment of ICVR), Production, Development and Extension Activities :-

(a) Dr KM Bujarbaruah - Chairman
(b) Dr KML Pathak
(c) Prof AK Srivastava
(d) Dr DVR Prakash Rao
(e) Dr Inderjeet Singh
(f) Prof Suresh S Honnappagol
(g) Dr Raghavenra Bhatta
(h) Dr Abhijit Mitra
(i) Prof (Dr) Vinod Kumar Verma

(j) Maj Gen ML Sharma (Retd)

Outcome - The President apprised the house that during discussion on formulation of vision document for "AMRITKAL – 2047" by the committee assembled on 27 May 2024 (Online), an important point has emerged that we should constitute sub-committees involving eminent veterinarians to deliberate on various issues like Veterinary Education and Research, Dairy and Poultry Production, Meet Technology, Waste Management and use of Contemporary Technological Advancements to boost Animal Production.

(d) Indo – German Collaboration–The Science & Technical Wing of Indian Embassy initiated Indo-German Dialog between Veterinary Institutions of India and Germany to promote bi-lateral co-operation in terms of exchange of Knowledge, Human Resources and Research Projects. An online meeting was organized by the Indian Embassy on 19 Jul 2024. Dr DVR Prakash Rao, President NAVS (I) along with the representatives from IVRI, NDRI, ICAR and Veterinary Universities of Tamil Nadu, GADVASU and West Bengal were invited to participate in discussion.

(e) Joint Seminars with Brooke India - Joint Seminars collaboration with Brooke India conducted on "Best Practices for Disposal of Carcasses" during the month of Jan 2024 and on "Commercial Utilization of Carcasses to Safeguard One Health" in Mar 2024.

Recommendations of deliberations on above Seminars are enclosed as Annexure I & II.

5. Any Other Points with the Permission of the Chair

(a) **Recognition of Fellowship** – Dr Mandeep Sharma, Hon'ble Vice Chancellor, Nanaji Deshmukh Veterinary Science University, Jabalpur, raised the issue that the Academy need to take up the case with concerned authorities for recognition of Fellowship.

Resolve- The President remarked that A letter to be written to all VCs of Veterinary Universities to consider allocating weightage to candidates granted Fellowship by the Academy for promotions/selections.

(b) **Representation from Industries/Corporate Sectors** – Dr Raghvendra Bhatta, DDG (AS) ICAR suggested that the Academy may consider acceptance of Memberships of outstanding Veterinarians working in Industries/Corporate Sectors.

Resolve- The President remarked that the issue be put up to GC for consideration.

(c) **Institutional Membership**- Dr DVR Prakash Rao, President NAVS (I), appealed to the Hon'ble Vice Chancellors of three remaining Veterinary Universities (Jabalpur, Hyderabad and Kolkata) to become Institutional Members of the Academy.

(d) **Coding/Numbering of Academy's Certificates** – There was suggestions from the house that the Academy's Certificates be codified/numbered.

Resolve- The proposal was accepted.

(e) **Change of Eligibility for Associate Fellowship** – There was a suggestion from the house that the eligibility criteria for applying for Associate Fellowship having served as Associate Professor for 5 years to be reduced to 3 years.

Resolve- The President remarked that the issue be put up to GC for consideration.

Maj Gen ML Sharma (Retd)
Secy Gen, NAVS (I)

Approved By

Dr DVR Prakash Rao
President, NAVS (I)

Annexure I

Report of Seminar

One Health Concept: Best Practices for Disposal of Carcasses

Date: 20th January 2024

Venue: India Habitat Centre (IHC), New Delhi

Preface

Dr Prakash Rao, President, NAVS(I) welcomed all the dignitaries and participants for the seminar. In his introductory speech, he emphasized in converting animal carcasses into products by using new technologies to generate revenues. This can be achieved through multisectoral one health approach in collaboration with different stakeholders including regulatory bodies.

Brig. J S Dharamadheeran, CEO of Brooke India (BI) in his welcome address, emphasized on management of animal carcasses especially during disaster.

The Theme

The One Health Approach underscores the intricate interconnection between the health of people, animals, and our shared environment. Understanding this increasingly interdependent concept and recognizing the significance of these connections BI continues to strive to promote the OH approach. As part of our series of workshops/seminars, we endeavour to perspective to address complex health challenges more effectively by fostering communication and collaboration across all sectors.

Under One Health approach, BI and National Academy of Veterinary Science India, NAVS(I) jointly planning to organize second Seminar on " One Health Concept: Best Practices for Disposal of Carcasses". Carcass disposal is closely related to One Health and is of paramount importance for human health, animal health, and our shared environment.

Carcass disposal refers to proper disposal of dead animal (including poultry) and it's remains should be done effectively to control/prevent the spread of zoonotic diseases. Effective management of carcass disposal will protect the environment (water, soil, atmosphere etc). Carcass disposal can be a significant challenge in India due to its diverse population and coexistence of humans and animals in close proximity.

Objectives

- To understand present situation of carcass disposal in India (awareness creation)
- To discuss and deliberate about good practices of carcass disposal in India (consensus building)
- To prepare a set of recommendations (future ways)
- result in dangerous situation like:

Why Disposal and Disinfection of Carcass needed?

- To promote health and well-being of human, animal and shared environment
- To prevent public outrage, site, ground water, and environment contamination, public health hazard, disease spread through scavengers, flies and vermin,
- To prevent future disease outbreak and environmental degradation by disease prevention

and control, adopting proper hygienic measures and disinfection procedures
- To ensure implementation of One Health and Pandemic Preparedness

Outcomes

- Creation of awareness about the issues within the stakeholders
- Recommendations for strengthening the animal system
- Recommendations towards preparation of the OH Charter

The Programme

10:30-10:55		Registration	
Inaugural Session			
11:00-11:07	Welcome address	Dr. DVR Prakash Rao, President, NAVS(I)	Organisers
11:07:11:14	Welcome address	Brig. Jyothikumar S Dharamadheeran, CEO, Brooke India	
11:14:11:30	Speech of Chief Guest	Dr O P Choudhury, Joint Secretary, Ministry of Fisheries, Animal Husbandry and Dairying, GOI, Chairman- AWBI	Chief Guest
Technical Session-1			
11:30:11:50	Dr Vijay Teotia Joint Commissioner, DAHD, GOI	Overall scenario of animal carcass disposal practices in various govt. and non-govt. sectors in India: Key Note Speech	Chair: Dr Inderjeet Singh, VC, GADVASU Panellist: Dr J M Kataria, IVRI – CADRAD Dr Jyoti Palod, Prof-LPM GBPUA&T Note: 5 minutes for Q&A for each of the presentations
11:50-12:05	Dr Nadeem Ahmad Deputy Director, Livestock Product, NFSG	Existing norms of Slaughter maintenance, inspection, safety & security of meat and its products	
12:05-12:20	Dr Rajeeb Dasgupta, Prof. JNU, Poultry One Health Hub	Existing practices of dead poultry disposal especially during outbreak and in normal circumstances in India	
12:20-12:25		Session's summary by the Chair	
Technical Session-2			
12:25-12:45	Manisha T Karia Advocate, Supreme Court	Acts and rules regarding proper carcass disposal in India and its gap Key Note Speech	Chair: Dr Ashok Kumar ADG (AS), ICAR Panellist: Dr Yashpal Singh, Dean CoVAS, Ludhiana Dr Rajeshwari Shome Epidemiologist
12:45-13:00	Dr Anoop Velayudhan Scientist -Epi & CD, ICMR	Diseases/infections of animal that can be transmitted from animal carcasses during its handling and disposal, safety standards and measures to be taken	
13:00-13:15	Dr Manish K Chatli Director, CIRG	Augmentation of processing of fallen carcass and animal byproducts for revenue generation	
13:15-13:20		Session's summary by the Chair	
13:20-14:00	Open Session	Discussion by all participants	Chair, Dr A C Varshney, Vice President, NAVS(I) Panellist
14:00-14:45	**LUNCH BREAK**		
14:45-15:25		Way forward and recommendation	Maj. Gen. M L Sharma General Secy, NAVS(I)
15:25-15:35		Closure/ Vote of Thanks	Dr S F Zaman, BI
15:35-16:00		Hi-Tea	

The Proceeding

Dr O P Chaudhury, Joint Secretary, Department of Animal Husbandry and Dairying (DAHD), GOI addressed the gathering by putting emphasis about the importance on organized **disposal of carcasses** and urged all the actor for due consultations and collaborations. Further emphasis was laid on following points,

- Cheap and green technology to be used to carcasses into products
- Clean and safe disposal for public health safety point of view
- Adequate emphasis to be put in procedural research
- There should larger participation of corporates, NGOs, and govt.
- Simple and straight govt. regulatory process is needed
- Presently Govt. has no data about carcass disposal number and its process
- Facilities and equipment are also less vis-à-vis need
- He urged all the actor for due consultations and collaborations.

With the aim to make the event more robust, two technical sessions were designed, each sessions having three speakers under one chair and two panellists. Speakers from different organizations brought in diverse perspectives of animal carcass disposal in India, including existing practices, mitigation measures, challenges and its augmentation process for future. Following are the Key areas of discussion.

- Overall scenario of animal carcass disposal practices in various govt. and non-govt. sectors in India
- Acts and rules regarding proper carcass disposal in India and its gap
- Existing norms of Slaughter maintenance, inspection, safety & security of meat and its products
- Existing practices of dead poultry disposal especially during outbreak and in normal circumstances in India
- Diseases/infections of animal that can be transmitted from animal carcasses during its handling and disposal, safety standards and measures to be taken
- Augmentation of processing of fallen carcass and animal byproducts for revenue generation

Technical Session-1: There were 03 lectures in this Session

Dr. Vijay Teotia, Joint Commissioner (Livestock Health, DAHD, GoI delivered Key Note Lecture on **"Overall scenario of animal carcass disposal practices in various govt. and Non-govt. sectors in India"** with the emphasis on following points-

- Improper carcass disposal can result in ground water and environmental contamination and may lead to public health issues. Therefore, implementation of one health and preparation for pandemic ensured.
- DAHD has given guideline on Carcass disposal and disinfection for the prevention and control of Infectious and Contagious disease. For proper implementation of these guidelines, the involvement of NGO's and Co-operation between State Veterinary Department and other relevant Govt. Bodies and identification of disposal sites should be done in advance with buffer zones.
- All the animal birth and death detail shall be registered mandatorily on Bharat Pashudhan App/Web Portal.
- There should be effective Liaison among State/UT AH Departments, Administration/ Local Municipal/Panchayat Authorities, Wild life Authority, Environment Agencies, NGOs and Cooperative.
- Carcass disposal methods and general precautions related to disposal of carcass should be followed in case of mortality.
- Disease wise disposal of carcass and disinfection thereafter of farm equipment and animal houses as per the guideline issued from DAHD time to time.

Dr. Nadeem Ahmad, Deputy Director, Livestock Product, NFSG, Ministry of Food Processing Industries delivered lecture on **"Existing norms of Slaughter house maintenance, inspection, safety and security of meat and its products''**. Major points of his discussion were:

- Acts to ensure safety of meat and meat products in India are FSSAI Act. 2006, FSS Regulation 2011 should be followed.
- Provisions for Carcass disposal in Slaughter House in India are given in the act 'Prevention of Cruelty to Animals (Slaughter House) Rules 2001' Prevention and Control of Infection and Contagious Disease in Animals Act, 2009/ Rules 2010 and Central Pollution Control Board Carcass Disposal Guideline, 2020.
- FSSAI 2011, Schedule 4, Part IV to ensure safety of meat and meat products and provision for carcass disposal in slaughter houses.
- Rigorous Anti-mortem and Post-Mortem examination of animals intended for slaughter and carcass through qualified Veterinarians should be carried out.
- Carcass disposal methods like Burial, Composting, Incineration and Rendering are to be followed.
- Government agencies mandate with Meat Hygiene in India are FSSAI (MoH & FW), Animal Husbandry and Veterinary Department at Central and State Levels and Municipalities at local level to be followed.
- Criteria for License/Registration as per FSSAI Central Licensing Authority, FSSAI State Licensing Authority Retail/Petty food Business Registration.
- Other Act, Regulations and Standards like Export (Quality Control and Inspection) Act 1963, APEDA The Act (2 of 1986), Basic Requirements for an Abattoir and Rendering Plant as per: IS 4393-2016 to be adopted.
- Improvements are needed to ensure meat hygiene and the proper disposal of carcasses in India.

Dr. Rajeeb Dasgupta, Prof. JNU, Poultry One Health Hub delivered lecture on "**Existing practices of dead poultry especially during outbreaks and in normal circumstances in India''**. Salient points of the deliberations were:

- Common causes of mortality in poultry with emphasis on Avian Influenza.
- Disposal of dead birds by Burial, Composting, Incineration and Rendering. In situations like natural disaster or catastrophic disease, combination of methods are to be used to keep pace with the mortality.
- Incineration is safest and most bio-secure among all the methods of disposal. Automatic controls can reduce fuel costs.
- Burial in case of mass mortality causes greater environmental and bio-security risks than routine burial.
- Gases and odor emissions are environmental concerns in rendering.
- Composting produces fertilizer, but its further transportation is required.
- The Average cost of disposal is minimum in incineration followed by rendering, composting and maximum in burial.

Technical session -2: Three topics were presented.

Ms Manisha T Karia, Advocate, Supreme Court: Acts and rules regarding proper carcass disposal in India and its gap

- Proper disposal of the animal carcass in the event of a disease outbreak or natural disasters is mandatory as per the Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009'.
- However, factors such as social, economic, and climatic conditions, lack of processing machinery have hampered the efficient utilization of carcass leading to environment hazards.
- For scientific management of carcass disposal, there is a need to strengthen installation of incinerators and to identify carcass disposals sites in the tier-1 and tier-2 cities of the country.
- The provisions of the section 393 of India code disposal of dead animals should be implemented strictly with the support of municipalities, NGOs, SHGS, Co-operatives and Central and State Animal Husbandry Ministries.

Dr. Anoop Velayudhan, Scientist-Epi & CD. ICMR: Diseases/infections of animal that can be transmitted from animal carcasses during its handling and disposal, safety standards and measures to be taken

- There is a need to create 24X 7 Help line/s to help citizens to utilize the helpline services to inform authorities about the death of animal (natural/disease/ accidental) in the locality to facilitate sate disposal.
- In case of zoonotic diseases, the carcass disposal should be divided into high risk and low risk categories and accordingly the veterinarians and other related personnel should be trained to handle high risk Zoonotic diseases starting from death site—Transportation—disposal site.

Dr. Manish K Chatli Director, CIRG: Augmentation of processing of fallen carcass and animal by products for revenue generation

- There is need to establish carcass utilization centers, bone crushing units, renovation / modernization of slaughter houses to harness the wealth from waste as 30% of cattle, 20% buffaloes, 46% goats and 50% sheep are not flayed and similarly 9 million bovine hides and 9 million ovine and caprine skins are lost annually.

- Agribusiness/ start-up companies need to be involved for the collection of fallen carcass and its utilization for preparation of value-added products such as animal feed/leather /fertilizer/chemical/ cosmetic Industry.

Recommendations

- **DAHD Order No. 2023-24 dated 12.12.2023 under Section 39 of the Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009.**
- All the birth and death details shall be registered mandatorily on Bharat Pashudhan App/Web Portal.
- States to designate the village level Nodal person to ensure recording of animal birth and animal death.
- Animal owner shall report the death of animal within 24 hours with Unique ID Tag to upload on NDLM portal.
- To ensure effective awareness/sensitization, biosecurity measures, scientific disposal and management, disinfection and vector management
- To ensure effective monitoring of stray animals and disposal, monitoring of unorganized sector
- Maintaining proper buffer zones in cooperation with Wild life authorities to prevent any possible threat to the wild and other animals.
- Public Awareness for Hygienic Meat, Meat Hygiene needs to be created
- Technology based approach towards Meat Hygiene
- **Modernization of existing Municipal Abattoir and carcass disposal units/fallen animal handling units**.
- There are no specific regulatory mechanisms for animal products specially prepared or manufactured out of carcass biomass from the offal's and bones in India. It's important to note that such regulations may be in place and updated or modified.
- The primary regulatory aspects may include Licensing and Registration by central regulatory authorities like Food Safety and Standards Authority of India (FSSAI) for ensuring the safety and quality as meat processing units, including those dealing with offals and bones.
- Proper disposal of waste generated during the processing of animal products, including offals and bones, must comply with environmental regulations to minimize ecological impact.
- There should be a regulatory mechanism to transport dead animals to the rendering plants. During the transportation and disposal process, bio-security measures should be implemented to prevent the spread of diseases or contamination.
- On the topic chosen "Best practices for disposal of carcasses" there is a need to develop a policy paper with the involvement of multispectral departments including

implementing agencies.

- Disposal of dead birds by Burial, Composting, Incineration and Rendering. In situations like natural disaster or catastrophic disease, combination of methods to be used to keep pace with the mortality.
- Incineration is safest and most bio-secure among all the methods of disposal. Automatic controls can reduce fuel costs.
- Burial in case of mass mortality causes greater environmental and bio-security risks than routine burial.
- Proper disposal of the animal carcass in the event of a disease outbreak or natural disasters is mandatory as per the Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009'.
- For scientific management of carcass disposal, there is a need to strengthen installation of incinerators and to identify carcass disposals sites in the tier-1 and tier-2 cities of the country.
- The provisions of the section 393 of India code disposal of dead animals should be implemented strictly with the support of municipalities, NGOs, SHGS, Co-operatives and Central and State Animal Husbandry Ministries.
- There is a need to create 24X 7 Help line/s to help citizens to utilize the helpline services to inform authorities about the death of animal (natural/disease/ accidental) in the locality to facilitate sate disposal.
- In case of zoonotic diseases, the carcass disposal should be divided into high risk and low risk categories and accordingly the veterinarians and other related personnel should be trained to handle high risk Zoonotic diseases starting from death site to disposal site.
- There is need to establish carcass utilization centers, bone crushing units, renovation / modernization of slaughter houses to harness the wealth from waste as 30% of cattle, 20% buffaloes, 46% goats and 50% sheep are not flayed and similarly 9 million bovine hides and 9 million ovine and caprine skins are lost annually.
- Agribusiness/ start-up companies need to be involved for the collection of fallen carcass and its utilization for preparation of value-added products such as animal feed/leather /fertilizer/chemical/ cosmetic Industry.

Post-event:

- Proceedings will be prepared and shared with all participants. Thereafter, the document will be shared with PSA, One Health, GOI and AHC, GOI

Annexure-1: List of participating organizations:

- Organisers (Brooke India and NAVSI)
- Organisations working in One Health in the country
- NCDC (Institutions working on disease control (emerging/remerging/zoonotic)
- MCD

- Central Pollution Control Board (CPCB)

Annexure-2: List of participants

Name of the delegate	Designation	Organisation	Email Id	Contact No.
Dr. Ravindra Sharma	Retd. Director Research	LUVAS , Hisar	Rsharma698@gmail.com	9896823198
Dr. Nadeem Ahmed	DDLP,MOFPI	MOFPI	S.nadeem@nic.in	9990226375
Dr. C.Bhattacharya	Nodal Officer Z & ID	GNCTD	Chanchalvp@gmail.com	9810594861
Dr. Inderjeet Singh	VC GADVASU	GADVASU	vc@gadvasu.in	9354324903
Dr. Manish K Chatli	Director , CIRG		Director.cirg@icar.gov.in	9463640437
Dr. Y.S.Malik	Dean GADVASU	GADVASU	Malikyps@gmail.com	750777999
Prof. A.C.Varshney	Vice President	NAVS(I)	Varshneyac@gmail.com	9780046214
Dr. Shanmuga Sundaram	Sr. Scientist	ICAR-NRCE	Shanmuga02@gmail.com	
Dr. S.K.Saha	P.S., AW Division	ICAR-IVRI	Subodhksaha@yahoo.com	9412822615
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Dr.Jyoti Palod	Prof. LPM	GBPUAT	Palod_17@rediffmail.com	9412125050
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Annexure II

Report of Seminar

One Health Concept: Commercial Utilization of Carcasses to Safeguard One Health

Date: 19th March 2024

Venue: Hotel Royal Plaza, New Delhi

Preface

Dr Prakash Rao, President, NAVS(I) welcomed all the dignitaries and participants for the seminar. In his introductory speech, he emphasized in converting animal carcasses into products by using new technologies to generate revenues. This can be achieved through multisectoral one health approach in collaboration with different stakeholders including regulatory bodies.

The Theme

The One Health Approach underscores the intricate interconnection between the health of people, animals, and our shared environment. Understanding this increasingly interdependent concept and recognizing the significance of these connections BI continues to strive to promote the OH approach. As part of our series of workshops/seminars, we endeavour to perspective to address complex health challenges more effectively by fostering communication and collaboration across all sectors.

Under One Health approach, BI and National Academy of Veterinary Science India, NAVS(I) jointly planning to organize third Seminar on " **One Health Concept: Commercial Utilization of Carcasses to Safeguard One Health"**. Commercial Utilization of carcasses with its proper disposal is closely related to One Health and is of paramount importance for human health, animal health, and our shared environment.

Carcass disposal refers to proper disposal of dead animal (including poultry) and it's remains should be done effectively to control/prevent the spread of zoonotic diseases. Effective management of carcass disposal will protect the environment (water, soil, atmosphere etc). Carcass disposal can be a significant challenge in India due to its diverse population and coexistence of humans and animals in proximity.

Further, there is great scope for commercial utilization of carcasses & animal waste in the country which not only prevent the spread of zoonotic diseases, reduce public health threat & nuisances but also generate income.

Objectives

- To discuss risk and challenges of scientific carcass disposal
- To discuss ways and means for conversion of carcasses to wealth.
- To prepare a set of recommendations (future ways)

Outcomes

- Creation of awareness about the common challenges of carcass disposal in different sectors and different ways to mitigate these challenges.
- Recommendations for strengthening the animal healthcare system.
- Recommendations towards preparation of the OH Charter

The Programme-

09:30		Registration	
Inaugural Session			
10:00	Welcome address	Dr. DVR Prakash Rao	President, NAVS(I)
	Welcome address	Lt. Gen Sanjiv Chopra, AVSM, VSM (Retd)	Director, Brooke India
10:15	Speech of Chief Guest	Dr Abhijit Mitra	Animal Husbandry Commissioner, DAHD, Ministry of Fisheries, Animal Husbandry and Dairying, GOI
Technical Session-1			
10:25	Update from previous Seminar	Recommendations of previous seminar on "Best Practices for Disposal of Carcasses"	Maj. Gen ML Sharma (Retd) General Secretary, NAVS(I)
10:40	Keynote speech	An Overview: Present status of carcass utilization in the country and its public health implications	Dr. DVR Prakash Rao Keynote speaker
11:00	**TEA BREAK**		
11:20	Panel discussion 1	Common challenges of carcass disposal in different sectors	Prof. V K Gupta, CoVAS, HP Moderator Rapporteur (10 min)
Technical Session-2			
12:30	Keynote speech	Innovative methods of carcass disposal and utilization for commercial purposes	Dr Vikas Pathak, Dean -Mathura Veterinary College
12:50	Panel discussion 2	Ways to mitigate challenges of carcass disposal and its conversion to wealth	Dr S F Zaman, Brooke India Moderator Rapporteur (10 min)
14:10	**LUNCH BREAK**		
15:10	Formulation of recommendations	Dr Ravindra Sharma, NAVS(I) Dr J M Kataria, IVRI – CADRAD Dr Jyoti Palod, Prof-LPM, GBPUAT Dr S K Saha, Principal Scientist, IVRI Dr Dinesh Gupta, Brooke India Dr Vivekanand, Brooke India	
15:20		Closure/ Vote of Thanks	Dr S F Zaman, BI
15:30		Hi-Tea	

The Proceeding

Dr. Abhijit Mitra, Animal Husbandry Commissioner at DAHD, Ministry of Fisheries, Animal Husbandry and Dairying, GOI, highlighted the significance of the seminar on Commercial Utilization of Carcasses to Safeguard One Health, stressing the importance of consultations and collaborations among stakeholders.

- Emphasized the necessity of developing a master document detailing effective carcass disposal methods tailored to the Indian context, ensuring ease of implementation.
- Underlined the critical need for clean and safe carcass disposal from a public health

perspective, urging stringent guidelines and procedures.

- Urged the engagement of village-level stakeholders, particularly Panchayats, in implementing safe carcass disposal guidelines to ensure community involvement and compliance.
- Stressed the importance of registering died animals in the National Livestock Digital Mission (NLDM) within 48 hours of death for enhanced traceability and management.
- Highlighted the need for traceability measures through the implementation of tagging systems for dead animals, facilitating effective monitoring and control.
- Advocated for a simple and straightforward government regulatory process to streamline carcass disposal procedures and ensure efficient compliance.
- Development of guidelines specifying the utilization of carcasses in pet food production, outlining permissible carcass types and utilization criteria.
- Emphasized leveraging digital technology, such as NLDM, to track the entire production chain, ensuring transparency and accountability in carcass utilization.
- Importance of conducting comprehensive risk analysis in carcass utilization to determine suitable processes and mitigate potential health risks effectively.

With the aim to make the event more robust, two technical sessions were designed. Speakers from different organizations brought in diverse perspectives of animal carcass disposal and its utilization in India, including existing practices, mitigation measures, challenges, and its augmentation process for future. Following are the Key areas of discussion.

- Present status of carcass utilization in the country and its public health implications
- Common challenges of carcass disposal in different sectors
- Innovative methods of carcass disposal and utilization for commercial purposes
- Ways to mitigate challenges of carcass disposal and its conversion to wealth.

Technical Session-1: There were 03 lectures in this Session -

Maj. Gen ML Sharma (Retd) General Secretary, NAVS(I) updated previous seminar on "Best Practices for Disposal of Carcasses" with the emphasis on the recommendations suggested during the last seminar.

Dr. Prakash Rao, President, NAVS (I) delivered lecture on **"Present status of carcass utilization in the country and its public health implications"**. Major points of his discussion were:

- Utilization of animal by-products in pet, aqua, and poultry food production to maximize resource efficiency and economic value.
- Introduction of waste-to-wealth concept in commercial carcass utilization to capitalize on unused resources and reduce waste.
- Discussion on the problem of waste offal in wildlife areas collected by nearby villagers, highlighting the potential risk of spreading zoonotic diseases.
- Importance of adjusting meat pH from alkaline to acidic (7.5 to 4.7) using sulfuric acid for better meat quality and microbial growth restriction.
- Emphasis on the sterilization process in carcass or byproduct utilization, involving moisture

content reduction (75% to 25%) and high-temperature maintenance (140 degree Celsius) to ensure complete microbial destruction like *E. coli, Salmonella, Prions etc.*

- Need for community education on carcass utilization techniques, particularly sterile methods, to promote safe practices and minimize health risks.
- Comparison between dry rendering and wet rendering methods, highlighting the superiority of dry rendering in pathogen destruction due to high temperatures.
- Awareness of potential recontamination risks with pathogens like *E. coli and Salmonella* during the transportation of processed or rendered meat.
- Call for improvements in meat hygiene standards and proper carcass disposal practices in India to meet food safety requirements effectively.

Panel discussion 1-

Chaired by Prof. V. K. Gupta, College of Veterinary and Animal Sciences, Himanchal Pradesh with other delegates viz. Dr. Vijay K Teotia, Joint Commissioner-DAHD, Dr. Parag Nigam, Wildlife Institute of India, Dr. S. P. Pandey, Chief Veterinary Officer, Ghaziabad, and Dr. Hemant Kaushik, Additional Director MCD. All delegates participated and made inputs on the topic of the "**Common Challenges of Carcass Disposal in different sectors".**

The session was concluded with the following points-

- Implementation of Animal Husbandry Department (AHD) 2023 guidelines through the development of standard operating procedures (SOP) at various levels, including veterinary officers, institutes, animal farms, local bodies, state AH departments, forest departments, and other relevant organizations.
- Inclusion of factors such as manpower and personal protective equipment (PPE) requirements in the SOP to ensure effective implementation.
- Establishment of arrangements by local bodies, authorities, and municipalities for proper carcass disposal, including marking land for disposal in rural areas.
- Adoption of scientifically approved methods for carcass disposal, such as deep burial, incineration, and rendering for by-product conversion, in accordance with permitted procedures.
- Consideration of special disposal methods permitted during epidemics or natural calamities to manage carcass disposal effectively.
- Recommendation for the government to establish a network of carcass disposal/processing facilities at reasonable distances to facilitate easy access, including rendering, incineration, and landfill disposal options.
- Integration of slaughterhouses into the carcass disposal network to ensure hygienic meat availability and proper disposal of non-edible carcass parts.
- Creation of abattoirs to maintain hygienic standards and facilitate the disposal of non-edible parts of carcasses.

Technical session 2: There were 02 lectures in this session-

Dr. Vikas Pathak, Dean-Mathura Veterinary College discussed on "**Innovative methods of carcass disposal and utilization for commercial purposes".** Major points of his discussion were-

- Approximately 60 million animals die annually in India due to diseases or natural causes, highlighting the significant quantity of carcasses available for utilization.
- Animal by-products contain around 20% protein, making them valuable resources for various applications.

- Despite this, only 2-3% of meat in India is used for consumption, indicating a substantial untapped potential in carcass utilization.
- Proper utilization of carcasses and their by-products not only reduces environmental strain but also creates employment opportunities.
- India's high livestock population and mortality rate present a significant potential source of nutrients for humans, animals, and land.
- Carcasses and by-products can serve as a renewable source of green energy production.
- Proper utilization of carcasses and by-products can yield various pharmaceutical and laboratory compounds, enhancing value-added opportunities.
- A significant amount of essential nutrients from carcasses is wasted due to underutilization of fallen animals.
- India's reliance on importing bio-compounds derived from carcasses and by-products indicates a missed opportunity for domestic production.
- With a change in mindset and supportive government policies, substantial revenue can be generated from the underutilized carcasses, contributing to economic growth and sustainability.

Panel discussion 2-

All delegates participated and made inputs on the topic of the "**Ways to mitigate challenges of carcass disposal and its conversion to wealth".**

The session was concluded with the following points-

- Implementation of enforcement systems to ensure proper carcass disposal in slaughterhouses, enhancing hygiene standards and regulatory compliance.
- Establishment of proper carcass processing plants with municipal corporation support to efficiently dispose of carcasses and manage waste.
- Development of a dedicated system to transport dead animals from their location to slaughterhouses, ensuring timely and hygienic disposal.
- Collaboration among slaughterhouses to organize vehicle fleets for the collection of dead carcasses from village to village, addressing community concerns and improving sanitation.
- Establishment of district-level slaughterhouses equipped with rendering plants to streamline carcass disposal processes and reduce environmental impact.
- Implementation of an integrated reporting system at the block, Panchayat, and district levels to track cases of dead animals, coordinate collection efforts, and manage carcass disposal arrangements effectively.

Recommendations-

- Develop a comprehensive master document outlining effective carcass disposal methods and utilization strategies tailored to the Indian context, ensuring easy implementation.
- Engage village-level stakeholders, including Panchayats, to enforce safe carcass disposal guidelines within their communities.
- Mandate the registration of tagged dead animals in the National Livestock Digital Mission (NLDM) within 48 hours of death to facilitate tracking and management.
- Conduct thorough risk analysis to determine suitable carcass utilization methods, considering the type of carcass and necessary processing protocols.
- Launch community education initiatives focusing on sterile techniques for carcass utilization to minimize health risks.
- Promote the utilization of animal by-products in the production of pet, aqua, and poultry foods, fostering economic opportunities while reducing waste.

- Implement waste offal management strategies in wildlife areas to mitigate the spread of zoonotic diseases to nearby communities.
- Advocate for dry rendering over wet rendering for carcass processing, as it effectively destroys pathogens at high temperatures.
- Ensure the implementation of the Animal Husbandry Department's 2023 guidelines for carcass disposal through standardized operating procedures (SOPs) at all levels of administration, addressing resource requirements and safety protocols.
- Establish proper carcass disposal arrangements at the local level, including designated land areas for rural carcass disposal.
- Scientifically dispose of carcasses according to approved methods such as deep burial, incineration, or rendering into by-products.
- Develop a network of carcass disposal/processing facilities at reasonable distances, including abattoirs at the district level to ensure hygienic meat availability and proper disposal of non-edible carcass parts.
- Implement a fallen animal management system, assigning responsibility to Panchayats/Blocks/Districts for the collection and hygienic disposal or rendering of fallen animals to maximize resource utilization.
- Increase production of bio-compounds derived from carcasses and by-products to encourage sustainable utilization.
- Establish an enforcement mechanism to ensure proper carcass disposal practices in slaughterhouses.
- Collaborate with municipal corporations to establish dedicated carcass processing plants for efficient disposal.
- Develop a specialized system for the transportation of dead animals from their location to slaughterhouses, ensuring timely and hygienic handling.
- Implement an integrated reporting system at the block/Panchayat/district level to track cases of dead animals and facilitate their collection and disposal.

Post-event:

- Proceedings will be prepared and shared with all participants. Thereafter, the document will be shared with PSA, One Health, GOI and AHC, GOI

Participating Organisations:

- AHC, Animal Husbandry, Dairying and Fisheries, GOI
- NCDC (Institutions working on disease control (emerging/remerging/zoonotic)
- MCD/NDMA
- Central Pollution Control Board (CPCB)
- Wildlife Research Institute, WHO, FAO, ICMR
- Animal Welfare Organization (NCR)
- AHD-UP and Delhi

Annexure 1 (list of participants)

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