



ASSESSING ANIMAL WELFARE PERCEPTION AND EDUCATION AMONG VETERINARY STUDENTS GLOBALLY

Policy Paper





POLICY PAPER ON ASSESSING ANIMAL WELFARE PERCEPTION AND EDUCATION AMONG VETERINARY STUDENTS GLOBALLY



| Titilayo Ayodele, Chair of IVSA SCAW 24-25 | Anjal Timilsana, Policy Officer IVSA SCAW 24-25 |

Maria Putri Levina, Research and data analyst IVSA SCAW 24-25 | Katarzyna Cyzy, Editor IVSA SCAW 24-25 |

ABSTRACT

Animal welfare is a fundamental aspect of veterinary medicine, yet its integration into veterinary education varies significantly globally. This policy paper explores the status of animal welfare education in veterinary curricula across the International Veterinary Students' Association (IVSA) Member Organisations, highlighting gaps in academic and extracurricular engagement. It examines students' perceptions, regional disparities, and species-specific welfare concerns, thereby identifying key barriers and proposing evidence-based strategies to enhance global animal welfare education.

The paper identifies regional disparities, curricular gaps, and students' attitudes toward animal welfare by analysing data from a global survey of IVSA members and reviewing educational frameworks. The findings from this survey aim to inform future educational strategies and advocate for including comprehensive, science-based animal welfare content in veterinary curricula, thereby supporting the development of veterinarians who are well-equipped to promote and uphold animal welfare in all practice areas.

INTRODUCTION

The International Veterinary Students' Association (IVSA) is a student-run organisation representing over 38,000 students from over 86 countries. The IVSA also represents working veterinarians through our Alumni Network. The IVSA strives to benefit the animals and humans of the world by harnessing the potential and dedication of veterinary students to promote the international application of veterinary skills, education, and knowledge.





The IVSA Standing Committee on Animal Welfare (SCAW) intends to address one of the IVSA's primary objectives: to actively support measures to improve the standard of animal welfare worldwide. SCAW aims to engage veterinary students internationally to increase awareness and education about animal welfare and work towards creating a world where animal welfare is maintained to the highest standards and animals and humans can live in harmony while preserving the environment.

This survey studies animal welfare issues and status in different parts of the world. The study was conducted from November 1st, 2023, to February 28, 2025, with 330 participants from over 83 countries. Animal welfare issues are present at varying degrees in different regions, and knowing them helps SCAW evaluate the current status of the world on animal welfare and animal welfare education, especially concerning IVSA members.

OBJECTIVES

This policy paper aims to:

1. **Assess the current status of animal welfare education**

Evaluate animal welfare topics' inclusion, timing, and comprehensiveness in veterinary curricula across IVSA Member Organisations, and identify gaps in academic training and extracurricular engagement.

2. **Analyse veterinary students' perceptions of animal welfare.**

Examine how veterinary students understand and prioritise the Five Freedoms, animal rights, and welfare as core professional responsibilities.

3. **Investigate regional and community-level animal welfare concerns.**

Highlight disparities in animal welfare awareness and practices across different geographical regions and community types, including urban, suburban, rural, and agricultural contexts.

4. **Identify key barriers to quality animal welfare education.**

Determine the institutional, cultural, and infrastructural obstacles limiting effective





animal welfare instruction and propose strategies to address them.

5. Support evidence-based policy development for veterinary education.

Provide actionable insights to guide educational institutions and policymakers in standardising global animal welfare education and advocacy initiatives.

6. Identify species-specific welfare concerns.

Identify and analyse species-specific welfare concerns by examining which animal categories receive disproportionate attention or neglect in academic discussions and practical welfare applications.

BACKGROUND

An animal's physical and mental well-being in connection to the conditions in which it lives and dies is what is meant by animal welfare (WOAH, Terrestrial and Aquatic Animal Health Codes, 2023). An animal is in a good state of welfare if, as indicated by scientific evidence, it is healthy, comfortable, well-nourished, safe, able to express innate behaviour, and not suffering from unpleasant states such as pain, fear, and distress (Keeling *et al.*, 2019; RSPCA Australia, 2019).

Although the formal standards of animal welfare vary across contexts and remain debatable, one of the most widely recognised frameworks is the 'Five Freedoms,' developed by Brambell in 1965 (Mellor, 2016). The five freedoms describe society's expectations for the conditions animals should experience under human control:

1. **Freedom from hunger and thirst:** ready access to fresh water and a diet to maintain health and vigour;
2. **Freedom from discomfort:** providing an appropriate environment, shelter, and a comfortable resting area.
3. **Freedom from pain, injury, or disease:** prevention or rapid diagnosis and treatment.
4. **Freedom to express normal behaviour:** providing sufficient space, proper facilities, and company of the animal's kind.





5. **Freedom from fear and distress:** ensuring conditions and treatment that avoid mental suffering (McCausland, 2014).

In recent years, animal welfare science has advanced significantly, with a growing emphasis on evidence-based assessments that incorporate animal-based indicators (e.g., behaviour, health records, physiological markers) in addition to traditional resource-based measures (e.g., space, food, water quality) (Harris *et al.*, 2024). Technological innovations, including automated welfare monitoring systems using sensors, artificial intelligence, and video analytics, are now being explored to provide real-time data on animal well-being, particularly in intensive farming environments (Rutgers *et al.*, 2021).

Welfare assessments are increasingly adopting the "Five Domains Model," an extension of the Five Freedoms, which evaluates welfare through four physical domains (nutrition, environment, health, and behaviour) and one mental domain (affective experience) (Mellor *et al.*, 2020). This model enhances the understanding of how physical states contribute to positive or negative mental experiences, thereby promoting not just the absence of suffering but also the presence of positive welfare states, such as contentment, social bonding, and play behaviour (Mellor *et al.*, 2020; Taylor *et al.*, 2023). Recognising this shift, IVSA SCAW is currently developing a policy paper that supports the integration of the Five Domains Model in welfare evaluations, with recommendations aimed at improving the physical and emotional well-being of animals across various species.

Global awareness of animal welfare is also driving legislative changes. The European Union (EU) has implemented comprehensive welfare directives, while countries like China, Brazil, and India are beginning to incorporate welfare standards into national agricultural policies (European Commission Proposals, 2023; Gopakumar, 2022; LI, 2021; UNEP, 2021). In Africa, organisations like the African Union Inter-African Bureau for Animal Resources (AU-IBAR) and the World Animal Protection (WAP) are actively promoting animal welfare through education, advocacy, and capacity building (AU-IBAR, 2021; World Animal Protection, 2022).

Animal welfare is now recognised as integral to the One Health and One Welfare frameworks, emphasising the interconnectedness of animal health, human well-being, and environmental sustainability (Pinillos, 2018). This holistic view is particularly relevant in zoonotic disease prevention, antimicrobial resistance, and climate change mitigation (WHO, 2023). Despite global progress, the implementation of animal welfare standards remains inconsistent, particularly in low- and middle-income countries, where limited resources, lack





of awareness, and cultural perceptions pose significant challenges (Lambert *et al.*, 2022; Kebede, 2023). In such contexts, welfare conditions often depend on traditional practices, economic constraints, and inadequate enforcement mechanisms (WOAH, 2020). Therefore, context-specific assessments are essential for identifying gaps, raising awareness, and developing practical, culturally sensitive solutions.

METHODOLOGY

Survey development and content: The survey questions on accessing animal welfare perception and education among veterinary students globally were developed by the IVSA SCAW team in the 2023/2024 term, led by the chair, Christiana Oloade. The survey was developed using Google Survey Forms and was sent to the IVSA executives for proofreading and to ensure that the questions align with the IVSA constitution. The survey was anonymised to protect respondents' identity, but details of respondents' region, member organisation, and universities were collected for descriptive analysis.

Taking the survey was intended to take over twenty minutes. There were various types of questions, such as multiple-choice, linear scale, checkboxes, and open-ended questions. The final survey questions were divided into five sections, in which the results are analysed. Section 1 examined the identity of respondents' academic and university statuses, species of interest, and fields of interest. Section 2 examined the responders' opinions and knowledge about the welfare of livestock animals. Similarly, Sections 3 and 4 evaluated the knowledge about the status of welfare education in respondent schools and communities, respectively. Section 5 considered the demographics of the respondents.

Data collection: The survey was conducted digitally using Google Forms. The form was open from November 1st, 2023, to February 28, 2025. It was anonymous to protect the identity of the respondents. The links were forwarded to 86 member organisations (MOs) of the International Veterinary Students Association (IVSA) and their corresponding local chapters (LCs).

Data analyses: All data were exported from Google Forms to Google Sheets once the survey was closed. Data were compiled, cleaned, and analysed using built-in functions and





pivot tables in Google Sheets (Google LLC, Mountain View, CA). Results are reported as (*n*, percentage) unless otherwise noted.

RESULTS

The survey reached a total of 330 respondents. The results are interpreted based on the sections of the survey as mentioned in the methodology.

Background of respondents:

According to the demographic distribution of respondents, the majority were from Asia (53.6%), followed by Sub-Saharan Africa (19.4%) and Europe (16.7%). The Americas (4.5%) and the Middle East and North Africa (5.8%) contributed lower proportions of participants (Figure 1). The five IVSA member organisations with the highest number of respondents were IVSA India (28.5%), IVSA Nepal (10.9%), IVSA Somalia (8.2%), IVSA Nigeria (7.9%), and IVSA Philippines (5.5%) (Figure 2).

Regarding academic level, second-year students represented the largest group of respondents (36.3%), followed by fourth-year (16.1%), first-year (15.3%), and third-year students (15.3%). Participation declined in the later years, with fifth-year students accounting for 12.9% and sixth-year students comprising 4.0% (Table 1).

When asked about species of interest, companion animals were the most commonly selected category (31.2%). Wildlife and aquatic animals were the second most popular (17%), while large animals, including food animals and equine species, accounted for 16.1% of preferences. A notable portion of respondents (14.2%) preferred working with mixed animals, and 8.5% were still undecided. Interest in exotic animals (3.0%) and laboratory animals (1.8%) was comparatively low.





IVSA Region
330 responses

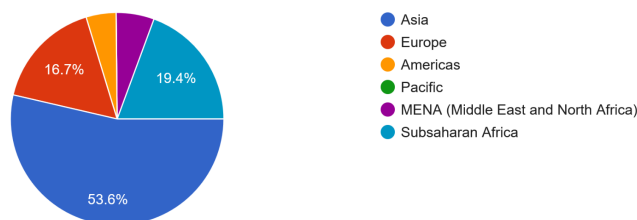


Figure 1. Regions of The Respondents

IVSA Member Organisation
330 responses

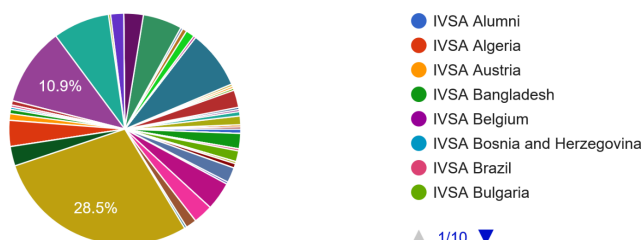


Figure 2. IVSA Member Organisation Representation in Survey Responses

List of member organisations that participated in the survey: IVSA Alumni, IVSA Bangladesh, IVSA Brazil, IVSA Bulgaria, IVSA Croatia, IVSA Denmark, IVSA Egypt, IVSA Estonia, IVSA Germany, IVSA Ghana, IVSA Greece, IVSA Guatemala, IVSA India, IVSA Indonesia, IVSA Italy, IVSA Japan, IVSA Latvia, IVSA Malawi, IVSA Malaysia, IVSA Morocco, IVSA Nepal, IVSA Nigeria, IVSA Norway, IVSA Pakistan, IVSA Perú, IVSA Philippines, IVSA Poland, IVSA Romania, IVSA Rwanda, IVSA Senegal, IVSA Somalia, IVSA Spain, IVSA South Korea, IVSA Taiwan, IVSA Tanzania, IVSA Tunisia, IVSA Turkey, IVSA Uganda, IVSA UK, IVSA Ukraine, IVSA USA, IVSA Venezuela, and IVSA Zimbabwe.





What is your species of interest?
330 responses

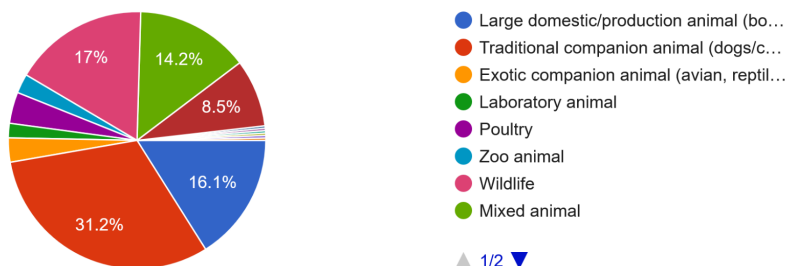


Figure 3. Respondents' Interest

List of species of interest: Large domestic/production animal, Traditional companion animal, Exotic companion animal, Laboratory animal, Poultry, Zoo animal, Wildlife, Mixed animal, domestic animal, Traditional companion and exotic animal, animal husbandry, Wildlife and zoo animal

Table I. Distribution of Respondents by Academic Year

Academic Year	Number	Percentage (%)
First Year	38	15.3
Second Year	90	36.3
Third Year	38	15.3
Fourth Year	40	16.1
Fifth Year	32	12.9
Sixth Year	10	4.0

Opinions on Animal Welfare

The respondents' views on animal welfare are examined in this section. The responders were asked which of the five animal freedoms they believe are most crucial, their understanding of the distinction between animal rights and welfare, and how they are vital for future veterinarians.





Most respondents (80.9%) rated animal welfare as extremely important to their future careers and responsibilities, assigning it the highest possible score (5). An additional 14.8% rated it as a 4, indicating high importance. Only a small minority viewed animal welfare as moderately or minimally important, with 2.4% selecting 3, 1.2% selecting 2, and just 0.6% rating it as 1 (Figure 4).

When asked which of the five fundamental animal welfare freedoms they considered most important, 'Freedom from hunger and thirst' was selected by 43.3%, followed by 'Freedom from pain, injury, and disease' (35.2%), fewer respondents chose 'Freedom to express normal behaviour' (11.5%) and 'Freedom from fear and distress' (7%) (Figure 5).

The survey also assessed respondents' understanding of the distinction between animal welfare and animal rights. Over half (55%) rated their familiarity at the higher end of the scale (4 or 5), while 31.2% gave a neutral rating of 3. Only 13% reported low familiarity.

When asked to rate the relative importance of animal welfare versus animal rights, most respondents (57.6%) viewed them as equally important (rating of 3). However, a significant proportion leaned more toward animal welfare, with 20% selecting 4 and 16.1% selecting 5. 6.3% leaned more toward animal rights (Table 2).

As a future veterinarian, how important do you see animal welfare being to your career and responsibilities?
330 responses

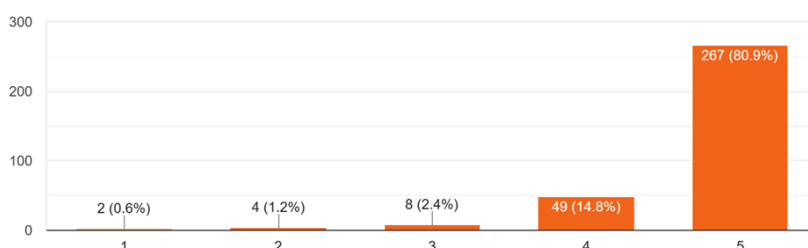


Figure 4. Showing respondents the importance of animal welfare in their careers (5 being a high role and one being contrary)





Which of the five basic animal welfare freedoms would you consider the most important?
330 responses

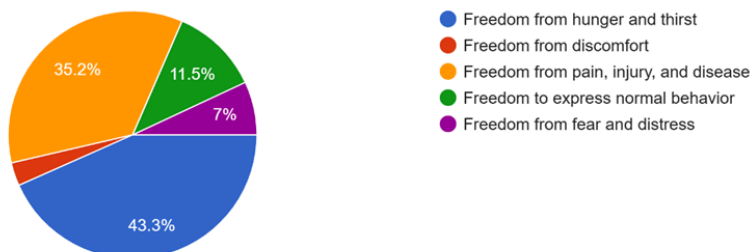


Figure 5. Showing respondents' ratings on the five critical animal freedoms

Table 2. Rating on animal welfare and animal rights

Question	Rating	Interpretation	Responses (Count)	Responses (%)
Animal rights vs. animal welfare importance	1	Animal rights are much more important	8	2.4%
	2	Animal rights are slightly more important	13	3.9%
	3	Equally important	190	57.6%
	4	Animal welfare is slightly more important	66	20.0%
	5	Animal welfare is much more important	53	16.1%





Familiarity with the difference between rights and welfare	1	Not familiar at all	16	4.8%
	2	Slightly familiar	27	8.2%
	3	Moderately familiar	103	31.2%
	4	Very familiar	104	31.5%
	5	Extremely familiar	80	24.2%

Animal welfare at school

The welfare of animals at the respondents' schools is examined in this section. It includes a survey of the subjects or courses on animal welfare taught in veterinary schools, the year these courses are taught, the comprehensiveness of the course, the existence of clubs for students to participate in, the students' opinions on the topic of animal welfare and animal rights, obstacles to animal welfare in schools, and strategies to enhance animal welfare education in veterinary schools.

82.7% of respondents indicated that their schools offered at least one animal welfare subject, 13.3% indicated they were unsure, and 3.9% indicated that their schools do not provide any animal welfare-related courses (Table 3). 42.4% of participants mentioned that their university offered animal welfare courses during their first year, 26.7% indicated their second year, 22.7% were unsure, 19.7% indicated their third year, 15.2% indicated their fourth year, 10.6% indicated their fifth year, and 10% indicated their university did not offer any animal welfare courses (Figure 6).

Based on the responses, the most frequently discussed topic was animal handling and restraint, covered in courses taken by 168 students (50.9%). Closely following were animal welfare legislation (48.5%) and ethics in veterinary medicine (46.4%). Other prominent topics included animal rights vs. animal welfare (40.6%), farm/production animal welfare





(39.1%), and animal behaviour (42.1%). Topics such as aquatic animal welfare (7%) and poaching and wildlife trafficking (12.1%) were significantly less represented.

Laboratory animal welfare was covered in 31.2% of courses, zoo animal welfare in 24.2%, and wildlife welfare in 20.3%. While central to many veterinary practices, companion animal welfare appeared in 27.9% of courses. Additional topics such as stress physiology, pain management, and humane euthanasia each appeared in about 20–22% of courses. Fifty-five students (16.7%) indicated they had not taken any animal welfare course. (Figure 7).

During what years does your school offer animal welfare courses?

330 responses

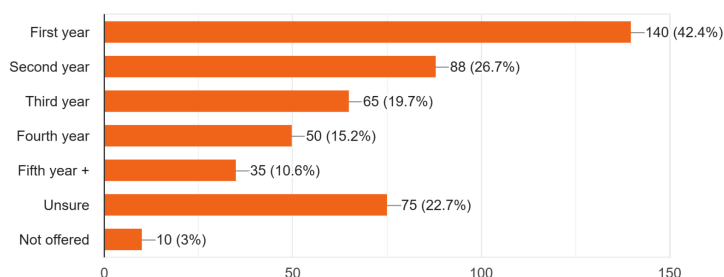


Figure 6. Year of study of animal welfare courses

If you have taken an animal welfare course, please indicate which of the following topics were discussed.

330 responses

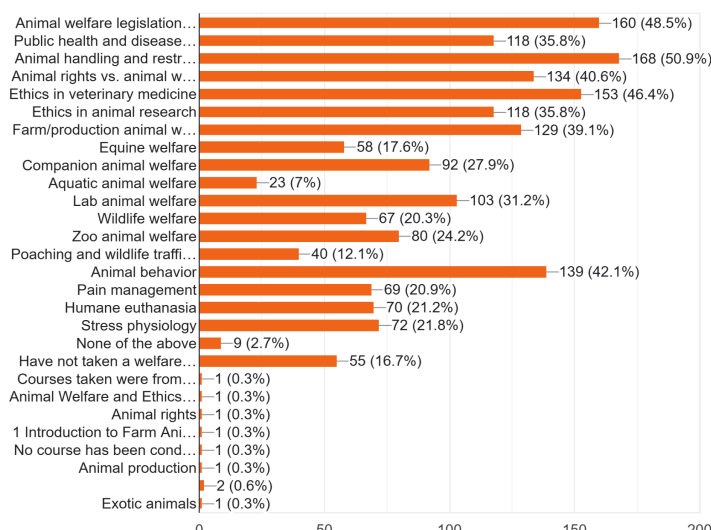


Figure 7. Animal welfare topics





Most respondents indicated moderate satisfaction when evaluating the comprehensiveness of animal welfare education at their universities. 36.4% rated their courses a three on a scale from 1 (not comprehensive) to 5 (fully comprehensive). Lower ratings were more common than higher ones: 22.4% rated it a 2, and 12.7% rated it a 1. Meanwhile, 20.3% rated 4, and 8.2% considered their education highly comprehensive (rating of 5) (Figure 8).

Regarding institutional support, 43.6% of respondents reported that animal welfare clubs or organisations exist within their universities. However, 38.8% stated their institutions do not have such organisations, and 17.6% were unsure (Table 3). Regarding individual participation, 36.4% of students reported being actively involved in their university's animal welfare club. In contrast, 24.5% stated they were not involved, and 39.1% indicated that their institutions do not have such clubs (Table 3).

Key barriers to quality animal welfare education were also identified. The most frequently cited challenge was curriculum overload, reported by 54.5% of respondents. Additionally, 42.1% pointed to the low prioritisation of animal welfare within academic programs. Other significant barriers included lack of funding (38.2%), lack of faculty interest (30.6%), and lack of student interest (23%). A minimal number of participants (0.3%) mentioned specific individual challenges such as poor instructional quality, limited practical exposure, excessive examination pressure, or no notable obstacles (Figure 9).

Respondents were asked what course format they think will be most helpful in a course about animal welfare topics. 61.5% indicated fieldwork or a practical approach is the best, 18.8% indicated that discussion is the best, 14.2% stated that case studies will be the best, and 5.5% indicated lecture-based (Figure 10).

How complete/comprehensive would you say your school's animal welfare course is?
330 responses

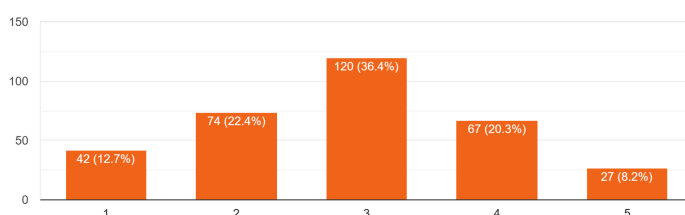


Figure 8. Comprehensiveness of animal welfare course



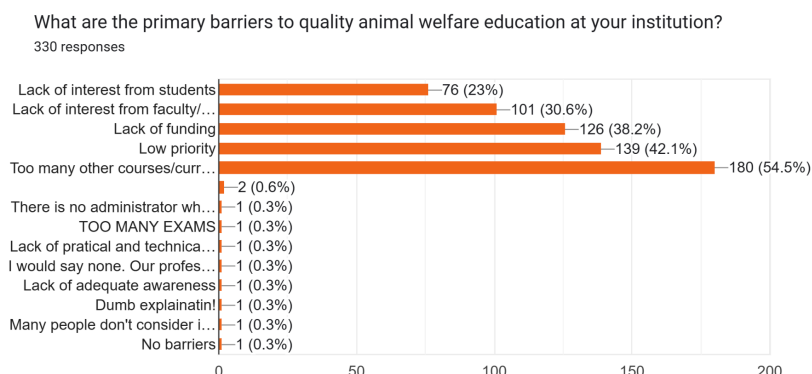


Figure 9. Barriers to quality animal welfare education

What course format do you think would be most helpful in a course about animal welfare topics?

330 responses

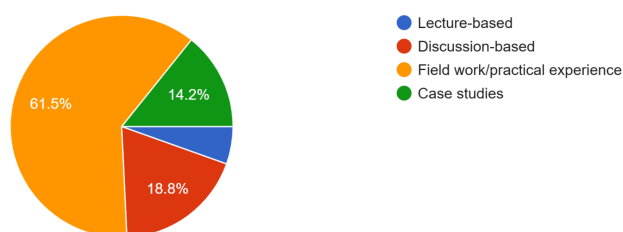


Figure 10. Course format that would be most helpful in teaching animal welfare topics

Animal rights and animal welfare

Respondents were asked to rate how frequently animal welfare is discussed within their core veterinary curriculum on a scale from 1 (never) to 5 (every day). Most responses clustered around the middle, with 43.3% selecting 3. Lower frequencies were also notable, with 26.1% selecting 2 and 5.2% selecting 1. More frequent discussions were less commonly reported, with 20% rating 4 and 5.5% rating 5 (Figure 11).



A similar trend was observed in the frequency of discussions surrounding animal rights. Again, most respondents selected the midpoint (3) at 43%, while 29.4% selected 2 and 9.1% selected 1. 14.2% rated the frequency as 4 and 4.2% as 5 (Figure 12).

How often would you say animal welfare is discussed in your core veterinary curriculum?
330 responses

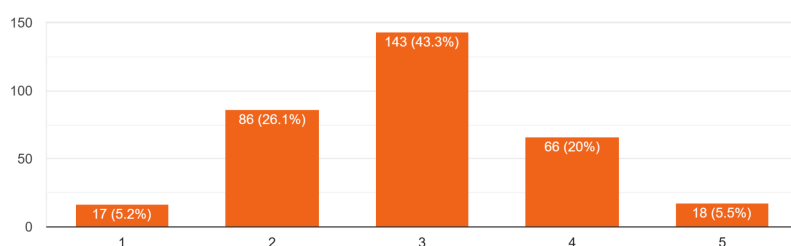


Figure 11. Chart of response on animal welfare in the core veterinary curriculum

How often would you say animal rights are discussed in your core veterinary curriculum?
330 responses

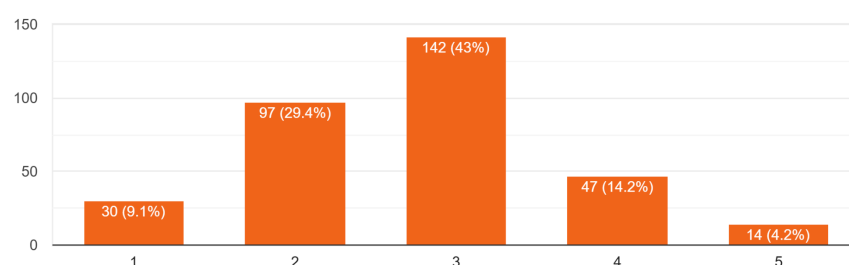


Figure 12. Chart of response on animal rights in the core veterinary curriculum

Table 3. Showing animal welfare courses in respondents' schools

	Yes	No	Unsure/not yet/not applicable
Does your school offer at least one course on animal welfare topics?	273 (82.7%)	13 (3.9%)	44 (13.3%)
Have you taken at least one course on animal	252 (76.4%)	19 (5.8%)	59 (17.9%)





welfare topics since beginning veterinary school?

Does your school have an extracurricular student organisation/club dedicated to animal welfare? 144 (43.6%) 128 (38.3%) 58 (17.6%)

Are you involved with your school's animal welfare organisation? 120 (36.4%) 81 (24.5%) 129 (39.1%)

Animal welfare in the community

This section analyses the animal welfare situation in the individual respondent's community. It started by asking about a description of the community, the percentage of the population of the community, the percentage of people that own companion animals and a rating of the animal welfare state of companion animals, the percentage of people that own livestock and the rate of the animal welfare state of livestock in respective communities, the percentage of people that own equines (horses, donkeys), the use of equine species, and a rating of the animal welfare state of equine species in their communities.

Community Background

35.8% of the respondents live in an urban community, 30.9% live in a suburban community, 24.8% live in a rural community, and 8.5% live in an agricultural community (Figure 13).

How would you describe your community?
330 responses

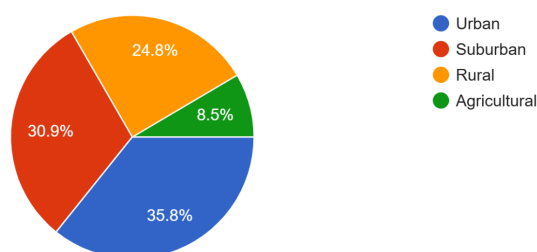


Figure 13. Community background of respondents





Companion animals

The following percentages were reported: 28.2% of respondents said that 26-50% of people own a companion animal; 26.1% of respondents said 51-75% of people own a companion animal; 20.9% said 10-25% of people own a companion animal; 13% said less than 10% of people own a companion animal; and 11.8% said more than 75% of people own a companion animal (Figure 14).

With ratings from 1 (poor) to 5 (excellent), 44.2% of respondents rated the companion animal welfare states in their communities as having a rating of 3, 22.1% rated it as having a rating of 2, 21.2% rated it as having a rating of 4, 9.7% rated it as having a rating of 1, and 2.7% rated it as having a rating of 5 (Figure 15).

Approximately what percentage of people in your community do you think own companion animals (dogs, cats, avian, reptiles, rodents, etc.)?
330 responses

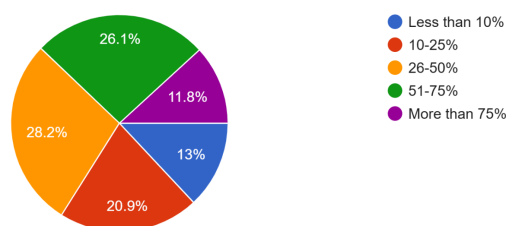


Figure 14. Percentage of people who own companion animals

How would you rate the animal welfare state of companion animals in your community?
330 responses

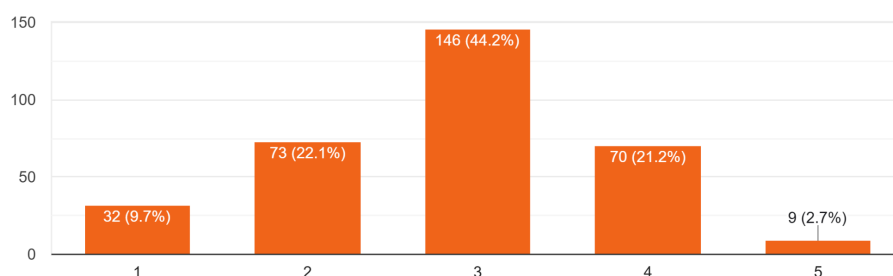


Figure 15. Rating the animal welfare state of companion animals in the community





Livestock

Respondents were asked about the percentage of people in their community who own livestock. Based on their response, 25.5% said that 10–25% of people own livestock, 24.8% said that 26–50% and less than 10% own livestock, 15.8% said that 51–75% of people own livestock, and 9.1% said that greater than 75% of people own livestock (Figure 16).

With ratings from 1 (poor) to 5 (excellent), 37.9% of respondents rated the companion animal welfare states in their communities as having a rating of 3, 32.1% rated it as having a rating of 2, 18.8% rated it as having a rating of 4, 8.2% rated it as having a rating of 1, and 3% rated it as having a rating of 5 (Figure 18).

Approximately what percentage of people in your community do you think own livestock?
330 responses

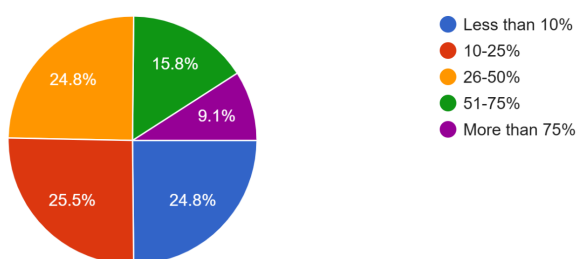


Figure 17. Percentage of people who have livestock

How would you rate the animal welfare state of livestock in your community?
330 responses

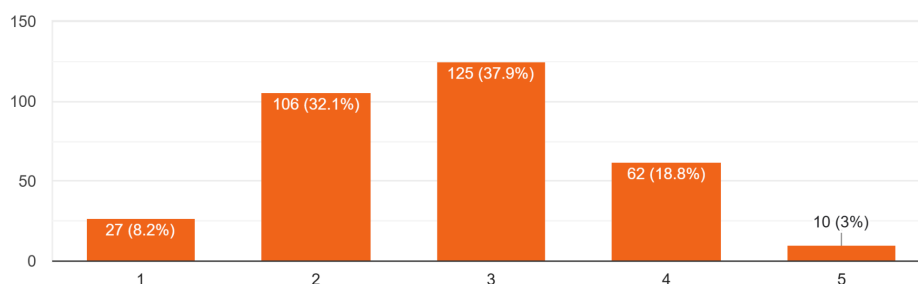


Figure 18. Rating of the animal welfare state of livestock in their community





Equine animals

72.7% of respondents estimate less than 10% of people in their community own equine animals, 17.3% think 10-25% of people own equine animals, 6.4% believe that 26-50% of people own equine animals, 2.7% think 51-75% of people own equine animals, and 0.9% think greater than 75% of people in their communities own equine animals (Figure 19).

In regards to the use of equine animals, 24.8% of respondents said that horses were kept primarily for work purposes, 23.9% responded that horses were kept mainly for employment, competition, or companionship, and 26.7% mentioned that horses were kept mainly as companions or for non-competitive riding. Of the participants, 19.1% said that horses were kept mainly for competition, while the remaining 5.5% said they had no horses in their communities or were kept as a symbol of wealth (Figure 20).

With the rating from 1 (poor) to 5 (excellent), 17.9% of respondents gave the animal welfare situation of horses in their towns a rating of 1, 29.1% gave a rating of 2, 34.4% gave a rating of 3, 16.7% gave a rating of 4, and 3.9% gave a rating of 5 (Figure 21).

Approximately what percentage of people in your community do think own equine animals (horses, mules, or donkeys)?
330 responses

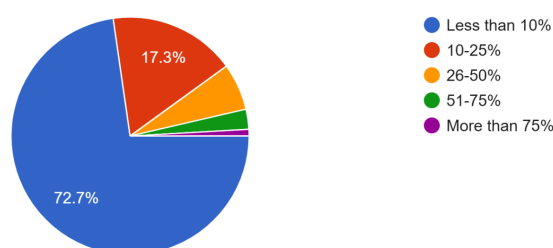


Figure 19. Percentage of people who own an equine



What is primary purpose of equine animals in your community?

330 responses

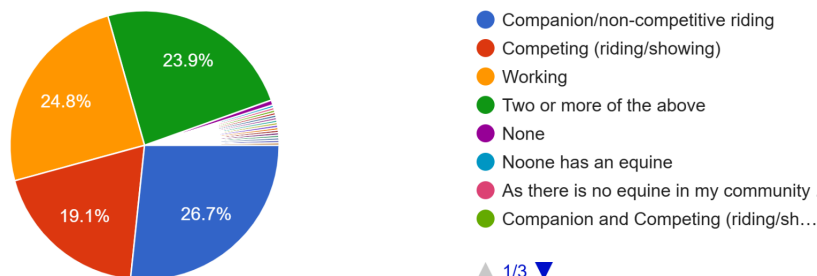


Figure 20. Purpose of equine animals in the community

Primary purpose of keeping equine animals lists; Companion/non-competitive riding, Competing (riding/show Two or more of the above, None, no one has an equine, As there is no equine in my community, It's not there, There is not a single one in our community, I'm not sure, I haven't been in contact, Polo sport, Food and as a sign of wealth, Nothing, For attracting tourist, not reared, I live in town so no one has a horse, no equine animal owner in my district, Rarely owned, agriculture

How would you rate the animal welfare state of equine animals in your community?

330 responses

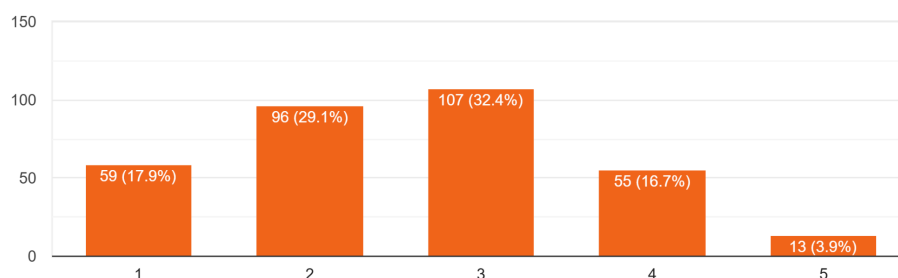


Figure 21. Rating the animal welfare state of equines in the community

Species of most concern regarding animal welfare

When asked which animal groups raised the greatest welfare concerns in their communities, most respondents (64.5%) identified companion animals as the most pressing concern. This was followed by bovine species (53.3%), small ruminants such as sheep and goats (49.5%),



and equine species (32.4%). Lower concern levels were reported for zoo animals (21.8%), wildlife (19.7%), aquatic animals (14.8%), laboratory animals (13.9%), and camelids (8.8%) (Figure 22).

Open-ended responses provided further context. Several respondents highlighted that the welfare of food-producing animals, such as cattle, sheep, and goats, is considered important in their communities due to their economic value. Similarly, companion animal welfare was emphasised, particularly for owned pets. However, some participants noted that stray dogs are often neglected.

Equine welfare was widely perceived as poor, with respondents attributing this to high maintenance costs and owners' neglectful attitudes. Although pig welfare was also reported as poor by some respondents, detailed explanations were not provided.

While a few respondents admitted to limited knowledge of local animal welfare conditions, the majority expressed a shared concern across all species and emphasised the need for greater awareness and improved animal care in their communities.

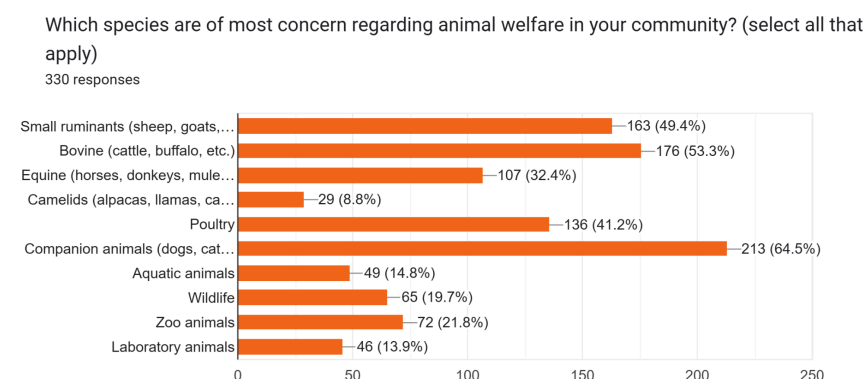


Figure 22. Species of most concern regarding animal welfare in the community





Demographics

The age distribution of respondents reveals that the majority (87.6%) are between 18 and 24 years old. An additional 10% fall within the 25–30 age range, while 1.8% are between 31 and 45 years old. 0.6% of participants are aged 36–51 or older.

In terms of gender identity, 60.9% of respondents identified as female, and 36.7% identified as male. A small proportion of participants identified as non-binary (1.2%) or as fluid and transgender (1.2%), while 0.6% preferred not to disclose their gender.

The survey also examined respondents' family educational backgrounds to understand the extent to which students are first-generation scholars. Regarding post-secondary education, 28.8% of students reported being the first in their families to pursue college or university-level studies, whereas 69.4% indicated that someone in their family had already done so. 1.8% were unsure.

When asked specifically about doctoral-level education, such as a Doctor of Veterinary Medicine (DVM) or PhD, 58.2% of respondents stated they are the first in their family to pursue such qualifications. In comparison, 34.5% had family members with doctoral degrees, and 7.3% were uncertain.

Strikingly, 91.8% of respondents reported being the first in their family to pursue a career in veterinary medicine. 7.9% had family members in the veterinary field, and 0.3% were unsure.

What age range do you fall within?
330 responses

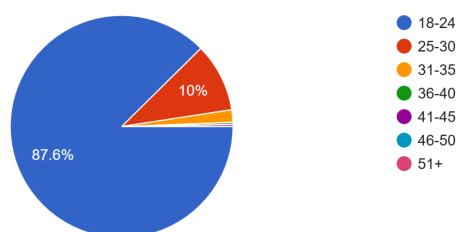


Figure 23. The age range of respondents





What gender do you identify with?

330 responses

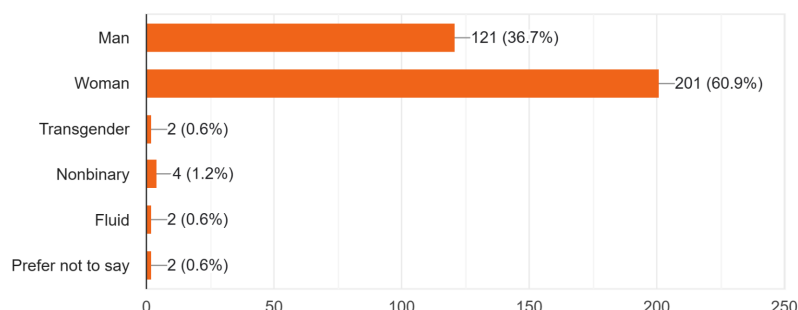


Figure 24. Gender of respondents

Table 4. Family educational background

	First to pursue post-secondary education	First, to pursue a doctoral degree	First, to pursue a career in veterinary medicine
Yes	95 (28.8%)	192 (58.2%)	303 (91.8%)
No	229 (69.4%)	114 (34.5%)	26 (7.9%)
Unsure	6 (1.8%)	24 (7.3%)	1 (0.3%)

DISCUSSION

The findings of this survey provide valuable insights into the perceptions and education of animal welfare among veterinary students globally, as represented by the International Veterinary Students' Association (IVSA). The results highlight regional disparities, educational trends, and community-specific challenges related to animal welfare. Below, the key findings and their implications will be discussed.

Regional representatives and demographics

The survey revealed a strong representation from Asia (53.6%), followed by Sub-Saharan Africa (19.4%) and Europe (16.7%). This may reflect the higher number of veterinary





students in these regions or their greater willingness to participate in this survey. The lower participation from the Americas (4.5%) and the Middle East and North Africa (5.8%) suggests a need for targeted outreach to engage these regions in future studies.

Demographically, most respondents were young (87.6% aged 18–24) and predominantly female (60.9%). Additionally, a significant proportion of respondents (91.8%) were the first in their families to pursue veterinary medicine, indicating a growing interest in the profession among first-generation students.

Animal welfare education in veterinary schools

Although 82.7% of respondents reported that their schools offered at least one course on animal welfare, which is often introduced in the first year (42.4%), this did not necessarily translate into student confidence or perceived competence.

Only 21% of respondents felt confident in assessing the welfare of livestock animals, a particularly critical concern given the scale of livestock production and related welfare issues globally, as stated by *Harris, 2024*. This discrepancy draws attention to a significant gap between the courses offered by institutions and students' preparation for real-world situations.

Moreover, despite high participation from Asia (53.6%), many Asian respondents reported that their universities lacked a dedicated animal welfare course. Findings from a study of 739 veterinary students from China, Malaysia, Vietnam, and Thailand are comparable to this outcome (Ling *et al.*, 2016). This is particularly concerning given the regional challenges in livestock, stray animal populations, and working animals (Ling *et al.*, 2023). This disparity suggests that the urgent animal welfare concerns relevant to the region may not be sufficiently covered in the existing curricula.

A large percentage of students (61.5%) preferred hands-on learning or fieldwork over lectures or discussion-based methods. This lends more credence to the concept that students desire their welfare education to be practical and hands-on, in addition to being more comprehensive, a feature that many institutions do not yet provide (Sustainable Aquaculture, 2024; Animals Asia Foundation, 2020). This choice highlights how important it is for veterinary schools to include additional opportunities for experiential education in their curricula, according to the results of a survey by *Endenburg & Van Lith, 2023*.





Barriers identified included curriculum overload (54.5%), low institutional prioritisation of welfare (42.1%), and lack of trained faculty and funding. Together, these factors create a system where animal welfare is acknowledged but inadequately addressed, leaving students underprepared despite its recognised importance in their future roles as veterinarians. Addressing these barriers is critical to enhancing animal welfare education globally (AVMA, 2010).

Extracurricular activities, such as student-run animal welfare clubs, play an essential role in reinforcing formal education. While 43.6% of respondents noted the existence of such clubs, only 36.4% reported active participation (Table 3). The relatively low engagement suggests either limited opportunities or awareness, both of which could hinder experiential learning, which is a key element in welfare education, according to *Main et al., 2005*.

Opinions on animal welfare

A significant majority of respondents (80.9%) rated animal welfare as extremely important to their future careers, with an additional 14.8% assigning it high importance. This mirrors findings from other studies, where veterinary students have expressed a strong belief in the relevance of animal welfare to their professional responsibilities (Mijares *et al.*, 2021).

When evaluating the Five Freedoms, respondents prioritised physiological needs: 43.3% selected "Freedom from hunger and thirst," and 35.2% chose "Freedom from pain, injury, and disease." These preferences highlight a focus on immediate physical well-being. In contrast, freedoms related to behavioural and emotional well-being, such as "freedom to express normal behaviour" (11.5%) and "freedom from fear and distress" (7%), received less emphasis. This trend aligns with observations in veterinary education, where physical health aspects often take precedence over behavioural considerations (Mijares *et al.*, 2021). As noted by the American Humane Association, the Five Freedoms serve as a comprehensive framework for animal welfare, encompassing both physical and psychological needs (American Humane, 2016).

The survey revealed that over 55% of respondents rated their familiarity with the distinction between animal rights and animal welfare as high, with an additional 31.2% indicating moderate familiarity. This suggests a commendable level of awareness among veterinary students. When asked to rate the importance of animal rights versus animal welfare, 57.6%





viewed them as equally important, while 36.1% leaned towards prioritising animal welfare. This indicates that a significant percentage of individuals view animal rights and animal welfare as interconnected concepts rather than mutually exclusive, which is similar to findings from a survey by *Platto et al., 2022*.

Animal welfare in communities

The survey also explored the state of animal welfare in respondents' communities. Companion animals were the most commonly owned (26–50% of households in many communities), and their welfare was rated moderately (average rating of 3 out of 5). Livestock welfare received similar ratings, with concerns primarily centred on economic priorities overshadowing welfare considerations, which is similar to a research finding conducted on Turkish veterinary students (*Çavuşoglu & Uzabaci, 2021*).

Equine animals were less common (72.7% reported less than 10% ownership), and their welfare was rated lower, particularly in communities where they were used for work or employment. This suggests a need for targeted welfare interventions for working equines, according to recommendations by *Brooke, 2015*.

Species of concern

Companion animals (64.5%) and bovine species (53.3%) were identified as the most concerning welfare, reflecting their prevalence and economic importance. Stray animals and livestock raised for food were frequently cited as vulnerable groups, emphasising the need for community education and policy interventions to improve their welfare (*WOAH, 2021*).





RECOMMENDATIONS

Veterinary schools and academic institutions

- To integrate animal welfare into core curricula.
- To reinforce theoretical knowledge, incorporate practical training, such as fieldwork, animal handling labs, and welfare case studies.
- Ensure instructors receive regular training in current animal welfare science, ethics, and pedagogy to provide continuous education.

Veterinary students

- Lead and engage in campus campaigns, workshops, and public education efforts on animal welfare to actively participate in welfare advocacy.
- Take courses or certifications in ethics, sociology, and animal behaviour to broaden understanding of welfare issues.
- Communicate gaps in welfare education and recommend improvements to curriculum committees or student bodies.

Government and veterinary regulatory bodies

- Ensure animal welfare knowledge is assessed as a prerequisite for veterinary licensure.
- Monitor veterinary schools for compliance with national or international welfare education standards.
- Fund national surveys and longitudinal studies on animal welfare trends to inform evidence-based policymaking.

Non-Governmental Organisations (NGOs) and civil society

- Partner with institutions to co-deliver welfare programs in communities, especially in rural and underserved areas.
- Provide internships, workshops, or volunteering platforms where students can experience real-world animal welfare issues.
- Invest in multilingual, culturally sensitive campaigns to educate the public on humane animal treatment.

Farmers, pet owners, and the general public

- Attend training sessions or campaigns on best practices for animal care and





welfare.

- Implement the Five Freedoms in everyday animal management, whether for pets, livestock, or working animals.
- Work with veterinary professionals and students to co-create solutions to local animal welfare challenges.

CONCLUSION

This survey provides comprehensive insights into animal welfare education and perceptions among veterinary students globally, highlighting both progress and persistent challenges. While most veterinary schools offer animal welfare courses, significant gaps remain in curricular content, practical training, and institutional prioritisation. Regional disparities further emphasise the need for tailored educational approaches, particularly in areas facing urgent welfare issues such as Asia and sub-Saharan Africa. Students recognise the importance of animal welfare to their future careers and clearly prefer hands-on learning opportunities, emphasising the need to move beyond traditional lecture formats.

Barriers such as curriculum overload, lack of funding, and insufficient faculty expertise limit the effectiveness of animal welfare education, emphasising the need for systemic reforms to prepare veterinary graduates better. Extracurricular engagement, though valuable, remains underutilised and could serve as a vital supplement to formal education if better supported and promoted.

The prioritisation of physical welfare over behavioural and emotional aspects reflects broader trends in veterinary training that warrant further attention to ensure a holistic understanding of animal welfare. Community-level concerns, particularly regarding companion animals, livestock, and working equines, highlight the importance of veterinary roles in advocating for improved welfare standards beyond clinical settings.

Addressing these multifaceted challenges through enhanced curriculum design, increased practical training, and expanded institutional support will equip future veterinarians to meet the complex demands of animal welfare advocacy worldwide. Such efforts will ultimately contribute to advancing the welfare of diverse animal populations and strengthening the veterinary profession's commitment to ethical and humane care.





REFERENCES

- African Union Inter-African Bureau for Animal Resources (AU-IBAR). (2021). Strategic plan for the improvement of animal welfare in Africa (2021–2030). Nairobi, Kenya: AU-IBAR. <https://www.au-ibar.org>
- American Humane. (2016). *Five Freedoms: The gold standard of animal welfare*. <https://www.americanhumane.org/blog/five-freedoms-the-gold-standard-of-animal-welfare/>
- American Veterinary Medical Association. (2010, January 1). *Welfare courses have tough time breaking into curriculum*. JAVMA News. <https://www.avma.org/javma-news/2010-01-15/welfare-courses-have-tough-time-breaking-curriculum>
- Animals Asia Foundation. (2020, August 27). *Animals Asia promotes excellence in veterinary practice in China*. <https://www.animalsasia.org/us/media/news/news-archive/animals-asia-promotes-excellence-in-veterinary-practice-in-china.html>
- Brooke. (2015). Invisible workers: The economic contributions of working donkeys, horses and mules to livelihoods. <https://www.thebrooke.org/sites/default/files/Advocacy-and-policy/Invisible-workers-report.pdf>
- Endenburg, N., & Van Lith, H. A. (2023). A global survey of the views of practicing companion animal veterinarians on their undergraduate curriculum and their access to continuing education resources. *Journal of Veterinary Medical Education*, 50(6), 713–731. <https://doi.org/10.3138/jvme-2022-0071>
- European Commission. (2023). *Revision of the animal welfare legislation*. European Commission. https://food.ec.europa.eu/animals/animal-welfare/evaluations-and-impact-assessment/revision-animal-welfare-legislation_en
- Gopakumar, K. C. (27 November 2022). "Draft Bill makes punishment for cruelty to animals more stringent". *The Hindu*. ISSN 0971-751X
- Google LLC, Mountain View, CA (n.d.). *Google Sheets*. <https://www.google.com/sheets>
- Harris, S., Shallcrass, M., & Cohen, S. (2024). A Review of Animal-Based Welfare Indicators for Calves and Cattle. *Ruminants*, 4(4), 565-601. <https://doi.org/10.3390/ruminants4040040>





- Kebede, I. A. (2023). General status of animal welfare: African context. *Journal of Animal Sciences and Livestock Production*, 7(3), Article 42.
<https://doi.org/10.36648/2577-0594.7.2.42>
- Keeling, L. J., Tunón, H., Antillón, G. O., Berg, C., Jones, M., Stuardo, L., Swanson, J. C., Wallenbeck, A., Winckler, C., & Blokhuis, H. (2019). Animal welfare and the United Nations Sustainable Development Goals. *Frontiers in Veterinary Science*, 6.
<https://doi.org/10.3389/fvets.2019.00336>
- Lambert, H., Carder, G., & D'Cruze, N. (2022). Evaluating the global state of animal welfare in 2020. *Frontiers in Animal Science*, 3, 825379.
<https://doi.org/10.3389/fanim.2022.825379>
- LI, PETER J. (2021). *ANIMAL WELFARE IN CHINA crisis, culture and politics*. [S.l.]: SYDNEY UNIVERSITY PRESS. p. 180. ISBN 978-1-74332-471-4. OCLC [123636751](https://www.worldcat.org/oclc/123636751)
- Ling R, Zulkifli I, Lampang P, Nhiem D, Wang Y, Phillips C. Attitudes of students from south-east and east Asian countries to slaughter and transport of livestock. *Animal Welfare*. 2016;25(3):377-387. doi:10.7120/09627286.25.3.377
- Main, D. C., Thornton, P., & Kerr, K. (2005). Teaching animal welfare science, ethics, and law to veterinary students in the United kingdom. *Journal of veterinary medical education*, 32(4), 505–508. <https://doi.org/10.3138/jvme.32.4.505>
- McCausland, C. (2014). The Five Freedoms of Animal Welfare are Rights. *Journal of Agricultural and Environmental Ethics*, 27(4), 649–662.
<https://doi.org/10.1007/s10806-013-9483-6>
- Mellor, D. J. (2016). Updating Animal Welfare Thinking: Moving beyond the “Five Freedoms” towards “A Life Worth Living.” *Animals*, 6(3), 21. <https://doi.org/10.3390/ani6030021>
- Mellor, D. J., Beausoleil, N. J., Littlewood, K. E., McLean, A. N., McGreevy, P. D., Jones, B., & Wilkins, C. (2020). The 2020 Five Domains Model: Including human–animal interactions in animal welfare assessments. *Animals*, 10(10), 1870.
<https://doi.org/10.3390/ani10101870>
- Mijares, S., Sullivan, P., Cramer, C., Román-Muñiz, N., & Edwards-Callaway, L. (2021). Perceptions of animal welfare and animal welfare curricula offered for undergraduate and graduate students in animal science departments in the United States. *Translational Animal Science*, 5(4). <https://doi.org/10.1093/tas/txab222>
- Pinillos, R. G. (2018). One Welfare: A framework to improve animal welfare and human well-being. *Veterinary Record*, 182(23), 664–665. <https://doi.org/10.1136/vr.k246>
- Platto, S., Serres, A., & Jingyi, A. (2022). Chinese college students' attitudes towards animal welfare. *Animals*, 12(2), 156. <https://doi.org/10.3390/ani12020156>





Royal Society for the Prevention of Cruelty to Animals (RSPCA) Australia. (2019). *What is good animal welfare?*

<https://kb.rspca.org.au/knowledge-base/what-is-good-animal-welfare/>

Rutgers, L., van den Heuvel, T., & Berckmans, D. (2021). Smart farming and animal welfare: Opportunities and challenges. *Biosystems Engineering*, 202, 49–60.

<https://doi.org/10.1016/j.biosystemseng.2020.12.003>

Sustainable Aquaculture @ Stirling. (2024, September 13). *Addressing the aquatic animal welfare gap in the Vietnamese education system.*

<https://www.susaquastirling.net/welfare-news/2024/9/13/tvu-aquatic-animal-welfare-education>

Taylor, E., Dunston-Clarke, E., Brookes, D., Jongman, E., Linn, B., Barnes, A., Miller, D., Fisher, A., & Collins, T. (2023). Developing a welfare assessment protocol for Australian lot-fed cattle. *Frontiers in Animal Science*, 4, 1256670.

<https://doi.org/10.3389/fanim.2023.1256670>

United Nations Environment Programme (UNEP). (2021). *Law No. 21.104 creating the Animal Welfare Code (Brazil).*

<https://leap.unep.org/en/countries/br/national-legislation/law-no-21104-creating-animal-welfare-code>

World Animal Protection. (2022). Global animal welfare: Progress and opportunities.

<https://www.worldanimalprotection.org>

World Health Organization (WHO). (2023). *One Health.*

<https://www.who.int/news-room/fact-sheets/detail/one-health>

World Organisation for Animal Health (OIE). (2020). *Global animal welfare strategy.*

<https://www.woah.org/en/what-we-do/animal-health-and-welfare/animal-welfare/>

World Organisation for Animal Health. (2021). *Global animal welfare strategy.*

<https://www.woah.org/app/uploads/2021/03/a-global-animal-welfare-strategy.pdf>

World Organisation for Animal Health. (2023, July 18). *Terrestrial Code Online Access - WOA - World Organisation for Animal Health.* WOA - World Organisation for Animal Health.

https://www.woah.org/en/what-we-do/standards/codes-and-manuals/terrestrial-code-online-access/?id=169&L=1&htmlfile=chaptre_aw_introduction.htm

