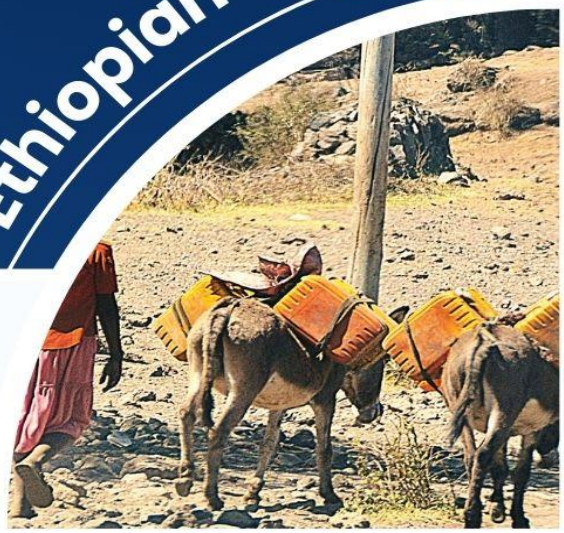
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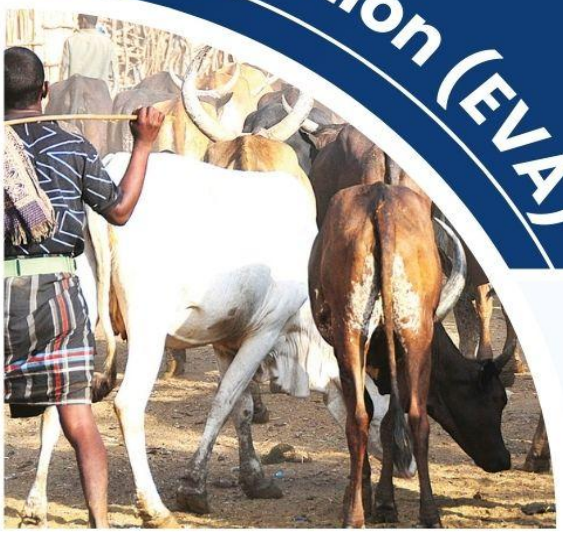
ANIMAL WELFARE: CONCEPTS, PRINCIPLES, BENEFITS, AND STANDARDS

Developed by

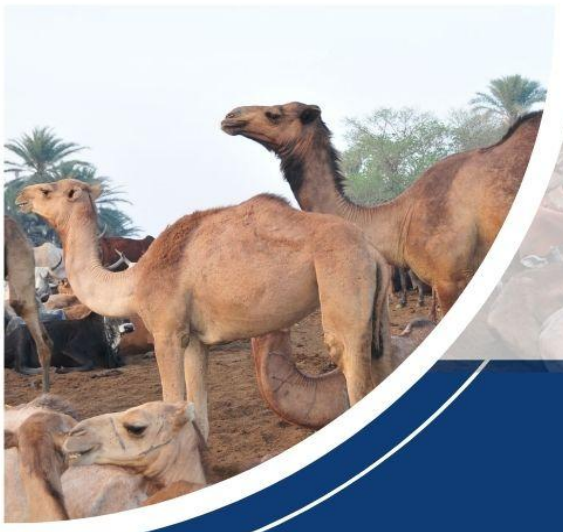
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Animal Welfare: Concepts, Principles and Benefits

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With Appreciation,

1. INTRODUCTION

Animal welfare is a complex and multifaceted issue that integrates scientific, ethical, economic, and political dimensions. At its core, animal welfare concerns the physical, mental, and emotional well-being of animals, reflecting how they cope with the conditions in which they live. It is rooted in the recognition that animals are sentient beings capable of experiencing pain, suffering, and positive emotions, which creates an ethical responsibility for humans to ensure their humane treatment and care across various contexts such as companionship, food production, research, conservation, and recreation (Lund et al., 2006).

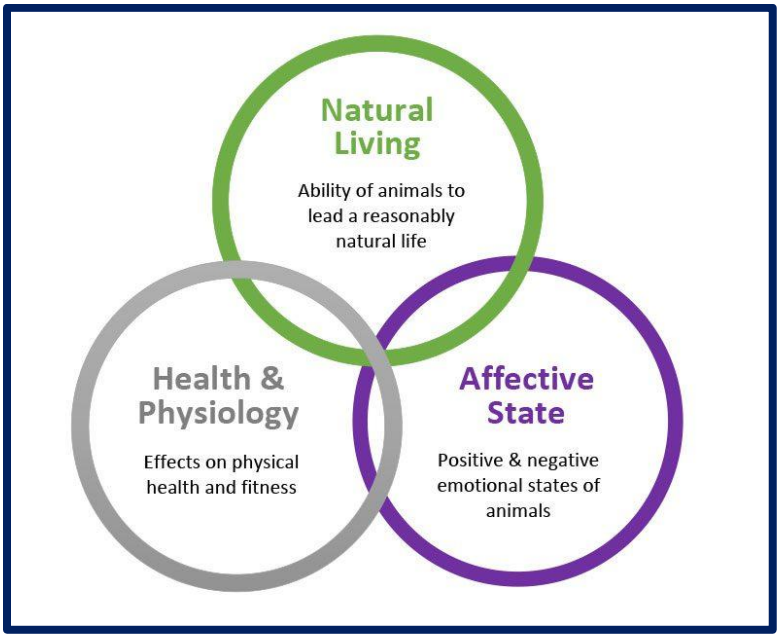


Figure 1: Fundamentals of Animal Welfare

The study of animal welfare initially emerged from the natural sciences but has since evolved into an interdisciplinary field. It now incorporates insights from physiology, veterinary science, ethology, comparative psychology, and human-animal interaction studies. This broad perspective enhances our understanding of animal welfare issues and fosters methodological advancements (Lund et al., 2006). Moreover, the integration of social sciences and collaboration with philosophers enriches this understanding by addressing the value dimensions inherent in animal welfare science, thereby deepening the overall comprehension of the concept.

Understanding animal welfare from the animal's perspective is essential, as animals are the ultimate judges of whether their experiences are positive or negative. Their welfare needs vary widely depending on species, environment, human attitudes, and

available resources. Recognizing this variability is crucial for developing effective welfare practices that improve both animal well-being and human benefits.

Animal welfare is closely linked to animal health and human well-being, a connection emphasized by the World Organization for Animal Health (WOAH) in its Global Animal Welfare Strategy (2017). The welfare of animals and humans is deeply intertwined, exemplified by the One Health approach, which highlights how neglecting animal welfare can adversely affect human health and societal outcomes (One Health at the World Bank, 2021). For example, poverty alleviation programs that provide livestock to communities may fail if animal welfare is compromised, leading to preventable animal deaths, social disturbances, and deteriorated community quality of life.



Figure 2: Interlinkage of Human and Animal Welfare with Environmental Health

In addition to ethical considerations, animal welfare plays a vital role in ensuring food and nutrition security. Proper care and management of livestock improve their health and productivity, resulting in higher yields of meat, milk, eggs, and other products essential for human consumption. This not only addresses nutritional deficiencies and food shortages but also enhances food safety by reducing contamination risks. Investing in animal welfare is, therefore, both a moral obligation and a practical strategy for building a more secure and sustainable food system.

Animal welfare is also gaining importance in the global trade of livestock and animal products. Consumers and regulatory bodies increasingly demand transparency regarding farming practices, transportation, and slaughter conditions. Good welfare practices reduce animal stress and disease susceptibility, which in turn preserves

meat quality and safety. This consumer awareness drives improvements in animal welfare standards worldwide.

Ethiopia's deep reliance on animals for agriculture, transportation, and food security, as well as their role in cultural traditions, highlights the importance of prioritizing animal welfare. Safeguarding their well-being is not only a matter of ethics but also a cornerstone of sustainable development. Healthy and well-cared-for animals lead to higher productivity, improved livelihoods, and stronger community resilience, especially in regions where livestock forms the backbone of daily life. Addressing animal welfare ensures the harmony of economic progress, public health, and cultural values in livestock-dependent communities.

In the next chapters, we will explore the practical strategies and tools required to implement effective animal welfare practices, laying the foundation for impactful and sustainable initiatives.

The objective of this training document is to create awareness and foster a deeper understanding of animal welfare among veterinary practitioners, local communities, high schools, and veterinary university communities. This effort aims to empower these stakeholders with the knowledge and insights necessary to advocate for and implement practices that enhance animal welfare in Ethiopia.

1.1. Definitions

Sentience: A sentient being is one that has some ability: to evaluate the actions of others in relation to itself and third parties, to remember some of its own actions and their consequences, to assess risk, to have some feelings and to have some degree of awareness" (Broom, 2006), "that is, feelings that matter to the individual" (Webster, 2011)., consciousness of feelings" (Mendl& Paul, 2004).

Sentience is the capacity to experience suffering and pleasure. It implies a level of conscious awareness. Animal sentience means that animals can feel pain and suffer and experience positive emotions. Studies have shown that many animals can experience complex emotions, e.g., grief and empathy (Douglas-Hamilton et al., 2006; Langford et al., 2006). Animal sentience is based on decades of scientific evidence from neuroscience, behavioral sciences, and cognitive ethology.

There is now widespread recognition of the 'sentience' of animals, which reinforces the need to protect their welfare. The European Union has officially recognized animals to be 'Sentient Beings' (1997). Sentience implies that animals are aware of their own surroundings, have an emotional dimension, are aware of what is happening to them, have the ability to learn from experience, are aware of bodily sensations – pain, hunger, heat, cold, etc., are aware of their relationships with other

animals, and have the ability to choose between different animals, objects, and situations.

Suffering: One or more bad feelings continuing for more than a short period (Broom & Fraser, 2007). To suffer, an animal must be sentient.

Animal Welfare: Animal welfare has various definitions depending on the context and perspective. It generally refers to the physical and psychological well-being of animals, but the interpretation can vary among different organizations, cultures, and stakeholders.

Dictionary definition – In the *Saunders Comprehensive Veterinary Dictionary*, animal welfare is defined as "the avoidance of abuse and exploitation of animals by humans by maintaining appropriate standards of accommodation, feeding and general care, the prevention and treatment of disease and the assurance of freedom from harassment, and unnecessary discomfort and pain."

American Veterinary Medical Association (AVMA) defines animal welfare as: "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 behavior, and if it is not suffering from unpleasant states such as pain, fear, and distress."

The World Organization for Animal Health (WOAH, formerly OIE) defines animal welfare as the state of an animal's ability to cope with the conditions in which it lives. An animal is considered to have good welfare when it is healthy, comfortable, well-nourished, safe, able to express its natural behaviors, and free from negative states such as pain, fear, and distress.

1.2. Concepts of Animal Welfare

Animal welfare revolves around key aspects such as "suffering," "needs," and the "Five Freedoms," closely tied to animal husbandry and human management. It acknowledges animals as sentient beings—a recognition formalized by the 1997 Amsterdam Treaty under European law. The scientific basis of animal sentience, first highlighted by Darwin, has evolved over time, with growing acceptance of animals' emotional and cognitive capacities despite early behaviorist skepticism (Watson, 1928; Skinner, 1938).

Good animal welfare requires disease prevention and veterinary treatment, appropriate shelter, management, nutrition, humane handling, and humane slaughter or killing. Animal welfare involves three dimensions aimed at ensuring the well-being of animals through distinct but interconnected aspects:

1. **Physical Well-being**: Ensuring the animal's health and comfort by addressing basic needs such as nutrition, shelter, disease prevention, and injury treatment. This includes creating an environment conducive to maintaining their physical state.
2. **Mental Well-being**: Addressing the emotional state of animals by minimizing stress, fear, and distress while promoting positive experiences. Animals should feel secure, content, and free from unnecessary psychological burden.
3. **Behavioural Well-being**: Allowing animals to express natural behaviours and instincts, such as social interactions, foraging, and exploration, contributes to their overall happiness and fulfilment.

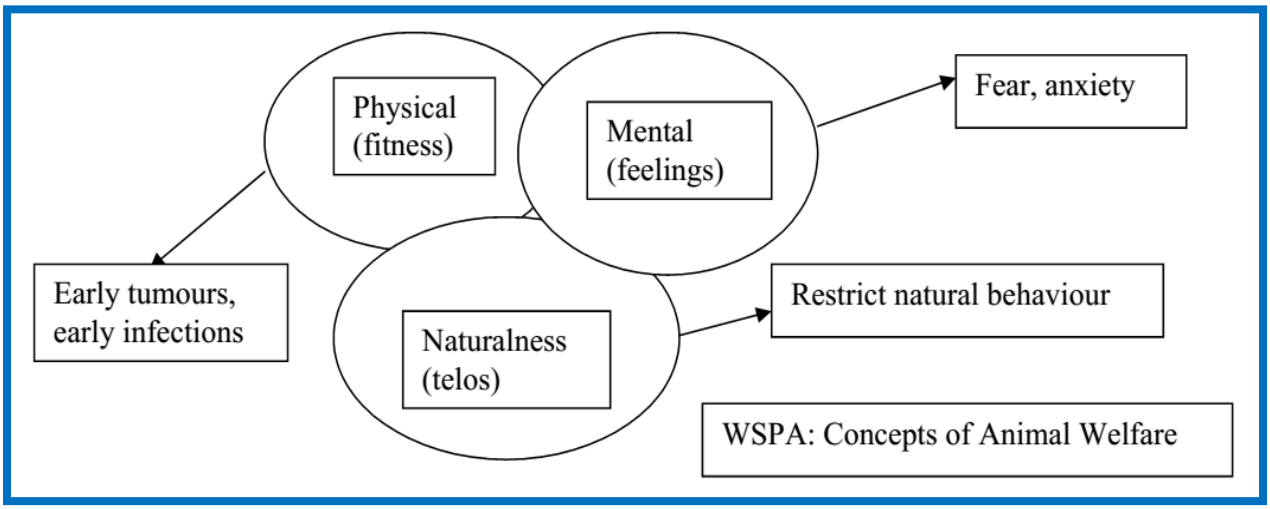


Figure 3: The three dimensions of welfare, & their inextricable relationship

1.2.1. Recognizing Animal Needs and Behaviors

Animals communicate their well-being through behavioral cues. Recognizing these signals is essential to prevent suffering and ensure appropriate care. By recognizing both signs of distress and indicators of healthy behavior, caregivers can intervene early to prevent suffering and promote a positive quality of life for animals.

1.2.1.1. Signs of Distress

Animals often exhibit specific behaviors when they are experiencing discomfort or stress. Key indicators of distress include:

- **Lethargy, Aggression, or Hiding**: Animals may become unusually inactive, aggressive, or withdrawn if they are feeling unwell or threatened.
- **Unusual Vocalizations**: Whining, growling, or other abnormal sounds can signal pain, fear, or anxiety.
- **Visible Injuries**: Obvious wounds or injuries require immediate attention.

- **Lack of Appetite**: A decrease in food intake can indicate illness or stress.
- **Abnormal Posture**: Animals may display unusual postures due to pain or discomfort.

1.2.1.2. Healthy Behavior

Well-being is reflected in regular activity, curiosity, clean appearance, and normal eating and social habits. Interpreting such cues allows caregivers to intervene effectively, fostering environments that support animals' physical and emotional needs

1.3. The five freedoms

Introduced by the UK Farm Animal Welfare Council (FAWC), the five freedoms form the backbone of global animal welfare discussions. They provide a comprehensive framework for addressing animal welfare across all stages of an animal's lifecycle, including farms, transit, markets, and slaughter facilities.

These principles have been adopted into guidelines, codes, recommendations, and legislation worldwide, shaping animal welfare practices in regions including Asia, Australia, the EU, and North America. They are also endorsed by organizations such as the World Organization for Animal Health (WOAH), demonstrating their importance in addressing and advancing animal welfare standards worldwide.

The Five Freedoms (Farm Animal Welfare Council, 1992):

1. **Freedom from Hunger and Thirst**: Access to fresh water and a diet that ensures full health and vigor.
2. **Freedom from Discomfort**: Provision of an appropriate environment, including shelter and a comfortable resting area.
3. **Freedom from Pain, Injury, or Disease**: Prevention measures alongside rapid diagnosis and treatment.
4. **Freedom to Express Normal Behavior**: Opportunities to display natural behaviors through sufficient space, facilities, and social interaction with their kind.
5. **Freedom from Fear and Distress:** Conditions and treatment that prevent mental suffering through species-specific care.



Figure 4: The 5 Animal Freedoms

1.4. Domains of Animal Welfare

The five animal freedoms align with the following welfare domains. By addressing these domains, caregivers can enhance welfare and improve the overall quality of life for animals.

1. **Nutrition**: Providing consistent access to food and water while minimizing competition among animals.



Figure 5: Providing fresh fodder to working animals

2. **Environment**: Ensuring clean, hazard-free surroundings and unrestricted movement for animals.



Figure 6: Working donkeys feeding rubbish, which can pose hazards to their health

3. **Health**: Preventing diseases and injuries, ensuring proper equipment use, and seeking timely veterinary care.



Figure 7: Regular cleaning and trimming of hooves as a preventive measure to mitigate lameness in horses

4. **Behaviour**: Facilitating natural behaviours, humane handling, and positive human-animal interactions based on LIMA principles (Least Invasive, Minimally Aversive). This also includes handling, which describes how a human works with, responds to or interacts with an animal in its surroundings. If handling is inhumane, it becomes a persistent source of suffering for animals. On the other hand, compassionate handling transforms their experience, making it more positive and even enjoyable. Humane handling not only enhances their well-being but also increases the number of positive interactions they encounter throughout their lifetime.



Figure 8: Examples of positive human-animal interaction because of compassionate handling

5. **Mental State**: Influenced by the experiences within the other four domains, promoting positive emotions and minimizing long-term stress or anxiety. Animals experience emotions ranging from immediate reactions to long-lasting mood states, such as anxiety or contentment, shaped by their cumulative experiences. Addressing both positive and negative experiences across all welfare domains is key to understanding their mental state and enhancing their overall well-being.



Figure 9: Example of an animal experiencing a negative mental state.

2. WHY ANIMAL WELFARE MATTERS?

Human understanding of animal welfare has evolved from focusing solely on physical health to embracing its psychological and behavioral dimensions. Early research prioritized observable conditions, while modern ethological studies reveal animals' subjective experiences, preferences, and emotional states. Animal welfare encompasses the quality of life rather than its duration, with mortality rates and humane treatment during death serving as important indicators.

Animal welfare remains a global concern, yet its principles are inadequately addressed in frameworks like the Sustainable Development Goals (SDGs), which only partially cover it in four of the seventeen goals. The COVID-19 pandemic highlights the interconnectedness of human and animal health, with over 60% of emerging infectious diseases being zoonotic in origin. Addressing these risks requires prioritizing animal welfare and improving biosecurity at the animal-human-environment interface.

The European Food Safety Authority (EFSA) emphasizes the direct link between animal welfare, health, and food safety, supporting the One Health approach. Better animal welfare practices, such as biosecurity improvements, are critical to preventing future pandemics and safeguarding public health.

2.1. Why Animal Welfare?

The following are the key reasons why animal welfare matters:

1. **Ethical Obligations:** Animals are sentient beings capable of experiencing emotions, pain, and pleasure. Recognizing their sentience imposes a moral duty to treat them with compassion and respect, reflecting societal values of empathy and justice.
2. **Legal Requirements:** Many countries enforce laws ensuring humane treatment of animals, such as the UK's Animal Welfare Act 2006, which mandates meeting animals' physical and psychological needs. Enforcement, however, varies globally.
3. **Environmental and Economic Impact**

    - **Livestock Management**: Humane practices enhance productivity, longevity, and product quality, benefiting the economy.
    - **Public Health**: Proper management of animals reduces the risk of zoonotic diseases.
    - **Environmental Sustainability**: Promoting animal welfare mitigates biodiversity loss, habitat destruction, and emissions associated with industrial farming.

2.2. Principles of Animal Welfare

According to Webster (1994), achieving all five freedoms completely is unrealistic, but they serve as a framework for improving animal welfare in complex situations. These principles are crucial in farm animal husbandry to ensure animals adapt well and thrive without undue distress. Animal welfare should be evaluated realistically, avoiding both anthropomorphism and purely mechanistic views.

Animal welfare principles are guidelines that aim to ensure the well-being of animals by addressing their physical and psychological needs. These principles are developed by various organizations and are based on scientific research, ethical considerations, and societal values.

Statement of Principles

1. **Sentience and Interconnectedness:** Animals are conscious beings capable of feeling pain and experiencing emotions. They have established mutual relationships with humans for thousands of years, and this connection underscores our responsibility to ensure their well-being.
2. **Duty of Care:** Humans have a moral obligation to protect animals under their care. Failure to meet these responsibilities can lead to animal suffering, necessitating legal intervention to enforce compliance and prevent harm.
3. **Intrinsic Value and Humane Treatment:** Animals possess inherent value and should be treated with humanity by those who benefit from them. Owned animals must be safeguarded from physical and psychological harm, provided with essential resources like water, appropriate shelter, and food, and allowed to fulfill their behavioral and social needs. They should receive timely veterinary care and a humane end-of-life experience.
4. **Balanced Use:** Animals can be used for human benefit if treated humanely, but any advantage to humans must be balanced against the cost to the animal. Their use in situations likely to cause suffering, injury, or distress is unacceptable.
5. **Promoting Positive Experiences:** Humans should strive to create positive experiences for animals in their care, aiming for continuous improvement in animal treatment and welfare.
6. **Environmental Stewardship:** Humans are responsible for preserving the natural environment of free-living native animals. Efforts should be made to conserve endangered species and protect native animals from disease whenever possible

Principles of Animal Welfare in Ethiopia

1. **Legal Framework**: Ethiopia has taken steps to improve animal welfare through policies and regulations. The country's Animal Health Proclamation (No. 267/2002) includes provisions for preventing cruelty and promoting the humane treatment of animals. However, enforcement remains a challenge due to limited resources.
2. **Cultural Practices** In Ethiopia, animals hold cultural significance, particularly in rural areas where they are integral to livelihoods. Traditional practices often prioritize animal welfare, but modernization has led to some challenges in maintaining these values.
3. **Role** of **NGOs**: Non-governmental organizations (NGOs) such as the Society for the Protection of Animals Abroad (SPANA) and Brooke Ethiopia play a pivotal role in raising awareness, providing veterinary services, and educating communities about animal welfare.

2.3 Animal Welfare Standards

Animal welfare is crucial for ensuring animals are treated with care and respect, benefiting both their well-being and the communities they support. It is a key aspect of sustainable development, contributing to the ethical treatment of animals while addressing global challenges like food security, environmental conservation, and public health. By aligning welfare practices with internationally recognized frameworks such as the Five Freedoms and Sustainable Development Goals (SDGs), societies can create solutions that benefit animals, people, and the planet.

Globally, frameworks like the Five Freedoms and guidelines from the World Organisation for Animal Health (WOAH) set standards that prioritize health, comfort, and natural behaviours, contributing to sustainable farming and public health improvements.

In Ethiopia, where animals are vital to agriculture and livelihoods, integrating welfare standards into development agendas supports long-term resilience and growth. Programs led by organizations like SPANA, Brooke, and The Donkey Sanctuary demonstrated the transformative impact of combining education, practical interventions, and community engagement to improve animal welfare.

The following sections detail essential welfare standards, their benefits, and insights from global initiatives and Ethiopia's context.

1. **Adequate Nutrition and Water**: Ensuring animals have access to clean water and nutritious feed is essential for their health. For example, SPANA has installed water stations for working animals in arid regions, protecting donkeys and horses from dehydration and ensuring they remain healthy during demanding tasks. The Brooke educates Ethiopian farmers on improved feeding



techniques, reducing malnutrition and enhancing productivity. These efforts benefit both animals and farmers by improving health outcomes and economic stability.

Figure 10: Providing clean water for working animals for better health outcomes

2. **Safe and Comfortable Living Conditions**: Proper housing protects animals from extreme weather and overcrowding, supporting SDG 11 (Sustainable Cities and Communities) and SDG 13 (Climate Action). SPANA constructs shelters for working animals in rural areas, ensuring they remain comfortable in harsh climates. Brooke's efforts in Ethiopia include building shaded resting areas for working equines, significantly reducing their exposure to heat stress and improving their well-being.



Figure 11: Proper shelters for resting working animals

3. **Access to Veterinary Care**: Prompt treatment and preventive measures like vaccinations ensure animals stay healthy and free from suffering, directly contributing to SDG 3 (Good Health and Well-being). In Ethiopia, SPANA's mobile clinics provide preventive care and treatment in underserved rural areas. The Donkey Sanctuary addresses common health issues by treating

injuries caused by poor harnessing, while also educating owners on better harness-making techniques to prevent future harm.



Figure 12: Treatment and vaccination services for working animals

4. **Promoting Natural Behaviours**: Allowing animals to express natural behaviours enhances mental well-being and productivity, contributing to SDG 12 (Responsible Consumption and Production). SPANA introduces work schedules for donkeys to prevent overexertion, while FAO's rotational grazing practices enable livestock to graze freely, reducing stress. Brooke's community training in Ethiopia encourages herding techniques that allow equines to socialize and thrive naturally.

5. **Humane Handling and Transport**: Treating animals with care during handling and transport prevents unnecessary pain and distress while aligning with SDG 9 (Industry, Innovation, and Infrastructure). Internationally, WOAH guidelines advocate for non-slip ramps and proper ventilation during livestock transportation. In Ethiopia, SPANA trains communities in inhumane methods. Brooke's work in Ethiopia includes educating farmers on safe handling practices and reducing injury rates and stress during transportation.



Figure 13: Humane handling of working animals

6. **Reducing Fear and Stress**: Creating stable environments where animals feel secure supports psychological well-being while aligning with SDG 8 (Decent Work and Economic Growth). SPANA's training programs teach compassionate handling techniques. At the same time, The Donkey Sanctuary empowers owners with tools and knowledge to create calm working environments, enhancing the animals' ability to contribute effectively to livelihoods.



Figure 14: Stressful conditions, such as hard ground (left) and fear (right), adversely affect the health and well-being of working animals.

3. ETHICAL CONSIDERATIONS FOR ANIMAL USE

3.1. The 3R Principles

The 3R principles—Replacement, Reduction, and Refinement—introduced by Russell and Burch in 1959, provide a guide for ethical animal use in research, testing, and teaching, balancing animal welfare with scientific integrity.

3.1.1. Replacement

Definition: Substituting the use of sentient animals with non-animal methods or less sentient alternatives.

- Examples: Computer models, cell cultures, or simulations instead of live animals.
- Animal Welfare Impact: Eliminates the need for animal use, reducing potential suffering.

3.1.2. Reduction

Definition: Minimizing the number of animals used in experiments while ensuring reliable results.

- Examples: Robust experimental designs, advanced statistical methods.
- Animal Welfare Impact: Decreases exposure to harmful procedures, lowering collective suffering.

3.1.3. Refinement

Definition: Modifying procedures and care to reduce pain, distress, and suffering for animals.

- Examples: Non-invasive techniques, enriched housing, and proper rehoming.
- Animal Welfare Impact: Enhances well-being by improving care and minimizing discomfort.

Hierarchical Approach

- **Replacement**: Prioritize eliminating animal use where possible.
- **Reduction**: Minimize numbers while maintaining validity.
- **Refinement**: Ensure humane conditions for unavoidable

3.2. Global adoption and advancements

Modern technologies like AI, organ-on-a-chip systems, and virtual simulations have advanced Replacement. Statistical tools optimize Reduction, and enriched environments improve Refinement. These principles are embedded in international legislation, such as the EU Directive 2010/63/EU and Canada's Code for the Care and Use of Animals.

Balancing scientific objectives with ethical concerns when applying the 3Rs can be challenging, especially when principles overlap or conflict. For example, efforts to reduce the number of animals used in research may unintentionally increase stress on the remaining animals due to higher workloads. Furthermore, certain research areas, such as studying complex biological systems, often require the use of live models, making complete replacement impractical.

In conclusion, the 3R principles form the foundation of ethical animal research, fostering scientific progress while prioritizing animal welfare. By applying Replacement, Reduction, and Refinement, researchers achieve humane and responsible practices.

4. BENEFITS AND IMPACTS OF ANIMAL WELFARE

Good animal welfare practices serve as a cornerstone of a thriving and sustainable world. They offer benefits that ripple far beyond the immediate care of animals themselves, positively impacting public health, economic stability, environmental sustainability, social cohesion, and global development goals.

4.1. Health Benefits

Good animal welfare is crucial for public health and community well-being. Interactions with well-cared-for animals support mental health by reducing stress, anxiety, and depression. Promoting responsible pet ownership encourages empathy and civil duty, contributing to stronger communities.

Improved animal welfare significantly enhances public health by reducing the risk of:

- **Zoonoses**: Diseases that can be transmitted from animals to humans, such as rabies or avian influenza, are less likely to spread when animals are kept in healthy conditions.
- **Antimicrobial Resistance (AMR)**: Proper animal care reduces the need for antibiotics, thereby decreasing the development of drug-resistant bacteria that can affect both animals and humans.

4.2. Community Well-being

Fostering empathy and compassion through animal welfare contributes to:

- **Positive Mental Health**: Engaging with animals and promoting their welfare can improve mental well-being.
- **Social Well-being**: Community involvement in animal welfare initiatives strengthens social bonds and promotes a sense of community.

4.3. Economic Benefits

Enhanced animal welfare leads to:

- **Increased Productivity**: Healthy animals are more productive, leading to higher yields and better-quality products.
- **Reduced Veterinary Costs**: Preventive care and humane conditions reduce the need for costly veterinary interventions.
- **Better Market Opportunities**: Consumers increasingly demand products from farms and suppliers that prioritize animal welfare, providing a competitive edge and increased profitability.

- Raising animals humanely can use less feed, fuel, and water than intensive farming, reducing costs and pollution.

4.4. Environmental Benefits

Improved animal welfare supports environmental sustainability by:

- **Reducing Resource Use**: Efficient farming practices minimize the need for feed, land, and water. High-welfare farming often involves practices like pasture-raising, which can improve environmental sustainability by enhancing soil health and reducing pollution.
- **Minimizing Pollutants**: Better waste management and reduced chemical use decrease environmental pollution. By farming crops and livestock, humane farms can reduce environmental damage by recycling nutrients and improving the soil. Greenhouse gas emissions are often reduced when animals are healthy and have good welfare

4.5. Social Benefits

Prioritizing animal welfare enhances:

- **Reputation and Trust**: Consumers are more likely to support businesses with strong animal welfare policies, fostering brand loyalty and trust.
- **Demand and Market Access**: Products from welfare-conscious producers are in higher demand,
- Humane farms can create jobs, boost profits, and keep local food supplies healthy, opening up new market opportunities.

4.6. Sustainable development

Animal welfare plays a crucial role in achieving several Sustainable Development Goals (SDGs):

- **SDG3: Good Health and Well-being**: By reducing zoonotic diseases and AMR, animal welfare supports human health.
- **SDG14: Life Below Water**: Sustainable aquaculture practices protect marine ecosystems.
- **SDG12: Responsible Consumption and Production**: Promoting humane and efficient farming methods aligns with sustainable consumption and production patterns.

In summary, prioritizing animal welfare not only improves the lives of animals but also contributes to healthier communities, stronger economies, more sustainable environments, and a more compassionate society, ultimately supporting global sustainable development goals

4.7. Assessment of animal welfare

Animal welfare is assessed by measuring and evaluating how well an animal's needs are being met in accordance with the animal's natural behavior. This will incorporate assessment of the environment in which the animal lives, whether the animal's social needs are being met (e.g. being around, or away from other animals of the same kind), how well-nourished the animal is with appropriate nutrition, and the animal's level of health, both physical and psychological. An animal's welfare can also vary by factors such as seasonality, work type, animal age, gender, and/or owners' practices, which is why making welfare assessment a regular, ongoing practice can be beneficial.

There are many different models or frameworks for assessing or defining animal welfare, the most notable of which include the Five Freedoms and the Five Domains, which are discussed in the sections that follow.

Despite the existence of different assessment frameworks, it is helpful to consider the concept of the "Balance of Life Experiences" when seeking to understand and promote animal welfare. In this concept, the 'ideal' of a 'good life' is something that all owners should strive to achieve by finding small, incremental ways to improve an animal's life experiences and bring their welfare to an acceptable, realistic standard that contributes to them having a life worth living.

Animal welfare has evolved into a distinct scientific discipline, driven by extensive research funded by governments, corporations, industry bodies, welfare organizations, and other stakeholders. This research serves as the foundation for legislative reforms and informs improvements in animal care across sectors, including food production, scientific research, captivity, and companion animal management.

Three components are important for a welfare assessment: -

- Use the Five Freedoms as the framework
- Assess welfare inputs and outputs
- Quantify the problem using the Severity, Duration, and Number of animals affected.

Inputs are the factors that affect welfare.
Outputs are the actual impact of these factors on welfare.
Examples of three types of welfare inputs are: -

- Stockman - Empathy, Knowledge, Observation skills
- Environment - Housing, Bedding, Feed quality, Water provision

- Animal - Suitable breed, age, and sex for the system.

Physiological measures of welfare include: -

- Heart rate
- Respiratory rate
- Adrenal habituation
- Blood pressure
- Catecholamines (adrenaline and noradrenaline)
- Enzymes and metabolites

However, measures of welfare should be applied with caution. WSPA's Concepts of Animal Welfare refers to different 'components' of welfare, of which welfare science is one, i.e.

- Welfare science
- Animal ethics
- Welfare law

While law often reflects the practical integration of prevailing scientific knowledge and ethical norms within a society, shaped by public opinion and political priorities, it is critical to recognize that welfare assessments cannot rely solely on scientific data. Intangible factors, such as cultural values and moral obligations, also play a role. In cases of uncertainty, the precautionary principle should guide decision-making, prioritizing actions that protect animal welfare over alternatives that risk harm, even if definitive evidence is lacking. This approach ensures that doubt is resolved in favor of animal well-being.

5. ROLES OF THE VETERINARY PROFESSION IN ANIMAL WELFARE

Veterinary professionals and paraprofessionals together hold a critical position in advancing animal welfare through their combined expertise in scientific knowledge, practical care, and support services. Their collective roles span diverse sectors, addressing ethical, societal, and environmental concerns while promoting animal well-being.

5.1. Custodians of Animal Welfare

Veterinary professionals and paraprofessionals are recognized as custodians of animal welfare. They uphold principles like the Five Freedoms, ensuring animals receive adequate nutrition, proper housing, healthcare, and protection from pain, fear, and distress. Whether working with pets, livestock, or laboratory animals, they collectively ensure humane and ethical care.

5.2. Animal Welfare in Food Production

Both veterinary professionals and paraprofessionals play key roles in safeguarding livestock welfare. Professionals oversee disease prevention and humane handling, while paraprofessionals assist in managing daily care, health monitoring, and compliance with welfare standards. Their joint efforts enhance sustainable agricultural practices and global food security (Glamac Blog, 2023).

5.3. Research and Policy Development

Veterinary teams contribute to research on behavior, pain management, and enrichment, with paraprofessionals assisting in data collection and implementation. Together, they inform policies and regulations that improve welfare standards and practices in various sectors.

5.4. Public Health and Zoonotic Disease Control

Veterinary professionals and paraprofessionals collaborate to prevent zoonotic diseases through vaccination, hygiene practices, and disease surveillance. Their united efforts safeguard public health and emphasize the interconnectedness of human and animal well-being.

5.5. Education and Advocacy

The veterinary teams lead educational initiatives, training paraprofessionals, animal owners, and the public on proper care and welfare practices. Paraprofessionals extend the reach of these efforts, engaging directly with communities to implement best practices and raise awareness. Together, they advocate for higher welfare standards globally, influencing policies and societal values.

6.LESSONS, CHALLENGES, AND OPPORTUNITIES

6.1. Lessons

Animal welfare initiatives globally and in Ethiopia have provided valuable lessons that highlight effective approaches to improving animal lives. These efforts reveal the importance of integrating veterinary care with community education, sustainable practices, and legislative frameworks to ensure lasting impacts. Below are some of these initiatives with practical lessons (globally and in Ethiopia).

Society for the Protection of Animals Abroad (SPANA**):** Its focus on veterinary care and education for working animals highlights the importance of combining treatment with community training. SPANA's success in promoting empathy and equipping owners with practical skills has improved the welfare of working animals worldwide.

Brooke (Global and Ethiopia): Brooke's interventions for working equines, particularly in Ethiopia, demonstrate how empowering communities through targeted education and healthcare solutions can elevate welfare standards while supporting livelihoods.

The Donkey Sanctuary: In Ethiopia, it has successfully integrated disease prevention, nutrition, and humane handling practices into community efforts. Their approach underscores the value of addressing welfare holistically, benefiting both animals and local economies.

FAO Animal Welfare Program**s**: The FAO's initiatives in sustainable farming and humane production systems offer lessons in balancing welfare, productivity, and environmental sustainability. These practices are adaptable to Ethiopia's growing livestock sector.

Tropical Dev**elopment Solutions**: TDS's work with livestock management emphasizes the importance of sustainable practices, such as rotational grazing and improved feeding systems, in advancing animal welfare while boosting productivity in rural Ethiopia.

6.2. Challenges

6.2.1. Challenges faced by the veterinary profession

Veterinary professionals and paraprofessionals face numerous challenges in advancing animal welfare. Limited resources, such as inadequate funding and insufficient staffing, often hinder the implementation of comprehensive welfare

programs. Additionally, cultural differences in attitudes toward animal care can create barriers to adopting globally recognized standards. Economic pressures, including the need to maintain profitability in agricultural industries, further complicate efforts to balance ethical treatment with productivity demands. These constraints require both groups to continually adapt their practices and find innovative solutions to ensure animal well-being is prioritized despite external challenges.

6.2.2. Other challenges to animal welfare

Animal welfare faces a range of challenges that go beyond the realm of veterinary professionals and paraprofessionals. These obstacles stem from economic, cultural, social, and environmental factors, as well as gaps in awareness and enforcement.

Economic Pressures: Economic constraints challenge animal welfare, as industrial farming often prioritizes productivity over humane conditions. Limited resources make it challenging to balance ethical treatment with economic viability.

Cultural and Social Attitudes: Cultural norms can lead to neglect when animals are viewed as commodities rather than sentient beings. Resistance to welfare improvements arises when traditional practices conflict with modern ethical standards.

Public Awareness and Education: Lack of awareness about animal welfare principles results in unintentional neglect. Educating the public on humane practices fosters better care and societal compassion.

Legislative Gaps and Enforcement: Weak legal frameworks and inconsistent enforcement hinder animal welfare progress. Strengthening legislation and ensuring compliance are crucial for global improvements.

Environmental Challenges: Climate change and habitat loss disrupt animals' access to essentials like food and shelter. Sustainable practices are necessary to mitigate these impacts and prioritize animal well-being.

Emerging Global Challenges: Urbanization and population growth complicate stray animal management and wildlife ethics. Addressing antimicrobial resistance (AMR) requires innovative strategies to reduce reliance on antibiotics.

6.3. Opportunities

1. Global Demand for Ethical Products**:** Increasing consumer preference for ethically sourced animal products offers opportunities for farmers worldwide, including in Ethiopia, to adopt humane practices and access premium markets. Antibiotics.
2. Expansion of Veterinary Services: Strengthening veterinary and paraprofessional networks globally and locally in Ethiopia can improve animal health and welfare, especially in underserved rural areas.
3. Sustainable Farming Practices: Eco-friendly farming methods, such as rotational grazing and enriched housing, can enhance welfare while addressing global environmental challenges like climate change.
4. One Health Integration: Aligning animal welfare with human health and environmental sustainability, particularly in Ethiopia, creates opportunities to address zoonotic diseases and promote public health resilience.
5. Policy Development and Awareness: Globally and in Ethiopia, advancing legislation, enforcing welfare standards, and raising public awareness through education can lead to widespread improvements in animal welfare practices.

6.4. The future of Animal welfare

Animal welfare is gaining increasing attention on both global and local levels as society recognizes the interconnectedness of animal well-being, public health, environmental sustainability, and ethical responsibilities. For Ethiopia and the global community, promoting animal welfare is not only a moral obligation but also an essential component of sustainable development. The following key areas highlight how progress can be achieved by leveraging emerging opportunities to ensure a compassionate, balanced, and sustainable future.

Ethical Product Demand**:** The global trend toward humane and ethically sourced animal products offers Ethiopia a chance to improve welfare standards and tap into premium markets.

Technological Advancements**:** Tools like precision livestock farming can enhance animal health monitoring, reduce stress, and improve farming sustainability globally and locally.

One Health Approach: Integrating animal welfare with human health and environmental sustainability strengthens zoonotic disease prevention and public health initiatives worldwide, including in Ethiopia.

Climate-Resilient Practices: Sustainable farming techniques, such as rotational grazing, address climate challenges while ensuring better welfare for animals and ecosystems.

Education and Policy Development: Expanding public awareness and strengthening welfare legislation ensure lasting improvements in both global and Ethiopian animal welfare practices.

7.SUMMARY AND THE WAY FORWARD

Animal welfare is a fundamental aspect of ethical responsibility. It focuses on ensuring animals live healthy, stress-free lives where their physical needs and natural behaviors are respected. Beyond ethical considerations, good animal welfare contributes to public health, sustainable agricultural practices, environmental conservation, and social development, making it a crucial element in building balanced and compassionate societies.

To achieve lasting progress in animal welfare, it is essential to adopt practical and forward-looking strategies.

Strengthening Legislation and Enforcement**:** Developing robust animal welfare laws and ensuring effective enforcement mechanisms globally and locally are essential for creating lasting improvements.

Investing in Education and Awareness**:** Increasing public understanding of animal welfare principles through schools, training programs, and community initiatives fosters empathy and encourages humane practices.

Promoting Sustainable Practices**:** Encouraging eco-friendly farming and resource-efficient methods helps address environmental challenges while enhancing welfare standards for livestock and wildlife.

Leveraging Technology**:** Innovations such as precision livestock farming and disease monitoring systems offer new opportunities to improve animal health and reduce stress in farming and other animal care settings.

Global Collaboration**:** Strengthening partnerships among governments, NGOs, and international organizations ensures that animal welfare initiatives align with global goals, addressing challenges like zoonotic diseases, climate change, and ethical product demand.

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