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Akanksha

Subject Matter Specialist (LPM),
ICAR-KVK, East Sikkim,
Ranipool, Sikkim, India

Subhankar Paul

Ph.D. Scholar, LPM, ICAR-
National Dairy Research
Institute, ERS-Kalyani,
West Bengal, India

Bed Singh

Ph.D. Scholar, LPM, ICAR-
Indian Veterinary Research
Institute, Bareilly, Uttar
Pradesh, India

Nikhil Sachan

M.V. Sc. Scholar, Veterinary
Gynaecology and Obstetrics,
ANDUAT, Ayodhya, Uttar
Pradesh, India

Animal welfare: Pathway to kinder world

Akanksha, Subhankar Paul, Bed Singh and Nikhil Sachan

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Abstract

The word "welfare" is applied to both humans and animals. An individual's welfare is determined by how well they are attempting to adapt to their surroundings, and adapting means maintaining mental and physical stability. Welfare includes an individual's emotions and physical well-being as well as the operation of several behavioural, physiological, and other adaptive systems. The study of animal welfare has shed light on a variety of animals' requirements and well-being. Animal welfare concern started after the publication of the book 'Animal Machine' and was formulated by 'Ruth Harrison', but now it become a major concern globally. Both governments and other non-governmental agencies are working for the welfare of the animals, and different laws and regulations are made for the welfare of the animals in every aspect. Various assessment parameters are there to assess welfare including health, production, physiology, and animal behaviour. Among, behaviour of the animal has the greatest value for the assessment. International traders are including animal welfare as a governing factor as consumers become more aware and want cruelty free behaviour with animals. This article discusses welfare and its different aspects, including history, various definitions, and the status of animal welfare globally.

Keywords: Animal, behaviour, globally, welfare

Introduction

The welfare of an individual is its state as regards its attempts to cope with its environment (Broom, 1986) [6]. Welfare is a quantifiable state that describes an individual's state in relation to their surroundings. Indicators of poor welfare include both inability to adapt to the surroundings and difficulty in adaptation. The following are some indicators of poor welfare: shortened life expectancy, sickness, immunosuppression, abnormal behaviour, impaired growth, and impaired reproduction. The ability of farmed animals to adapt to human-designated habitats without suffering is a key factor in their welfare. A species is certain to survive as long as it stays within the parameters of the environmental range to which it can adapt (Carpenter, 1980) [8].

History and Ethical Perspective

The English animal activist Ruth Harrison's book *Animal Machines* contained the first significant critique of confinement systems. In 1964, release of Ruth Harrison's book 'Animal Machines' sparked discussions concerning farm animal confinement across many developed nations. She discussed crates for veal calves and cages for laying hens, arguing that these arrangements are so against nature that they result in the unpleasant and unhealthy lives of the animals. The Brambell Committee was founded by the British government as a response; which defined animal welfare as a broad phrase encompassing the animal's physical and mental well-being (Brambell *et al.* 1965) [5]. In addition, the Committee declared that every attempt to evaluate welfare therefore take into account the scientific evidence available concerning animals' feelings that can be derived from both their behaviour and their structure and functions.

All animals and mammals, are generally acknowledged to be sentient beings with the ability to feel both positive and negative emotions as well as pain, suffering and distress. In 1997, the European Union officially acknowledged animals as "sentient beings." Sentience suggests that animals

Corresponding Author:

Akanksha

Subject Matter Specialist (LPM),
ICAR-KVK, East Sikkim,
Ranipool, Sikkim, India

European Union officially acknowledged animals as "sentient beings". Sentience suggests that animals:

- Knows feelings, such as pain, hunger, heat and cold
- Understand the relationships they have with other animals
- Possess an emotional component
- Are conscious of their surrounding
- Possess the capacity to take in knowledge from experience

A major issue with the use of terms like pleasure, pain, and suffering is that these are sometimes pronounced as 'emotions' or 'feelings', but the word emotion lacks the hunger and thirst that are also major parts of animal welfare. "Affective states" is a phrase that describes emotions and other feelings that are regarded as pleasant or unpleasant rather than being neutral. Affective state is possibly the most accurate word.

After overcoming this challenge, it's crucial to ascertain the particular demands of the animals and how their surroundings might satisfy their needs. The broad term "need" is used to refer to an animal's deficiency that can be satisfied by getting a specific resource or reacting to a specific environmental or physiological stimulus, according to Fraser and Broom, (1997) ^[14]. An animal's need is a lack that can be satisfied by getting a specific resource or reacting to a specific environmental or physiological stimulus. All these needs of animals were summarized by Odendaal, (1998) ^[33].

Environmental needs, including hygienic practices, transportation, and environmental enrichment, as well as housing and management, which include handling and breeding, and physiological and behavioural needs, such as the ability to exhibit the primary biological processes and the range of behaviours.

In this regard, the idea of "freedom" in animal husbandry has been presented. The concept of the Five Freedoms, proposed by the UK's Farm Animal Welfare Council (FAWC) in 1979, has since been used as a framework for evaluating animal wellbeing, particularly on commercial farms and has served as the foundation for a variety of welfare assessment tools (Brambell *et al.*, 1965) ^[5]. Later this concept was revised by FAWC, (1993) ^[13] are as follows (McCulloch, 2013) ^[29].

- **Freedom from thirst and hunger:** Animal have access to fresh water and feed to maintain their health and vigour
- **Freedom from discomfort:** Provision of comfortable environment including shelter and a suitable resting area according to animal's physical state
- **Freedom from pain, injury and disease:** Prevention of diseases along with rapid diagnosis and treatment.
- **Freedom to express normal behaviour:** Provision of sufficient space, proper facilities and company of the animal's own kind.
- **Freedom from fear and distress:** Avoidance of conditions that leads mental suffering.



Fig 1: Five freedom principles for animals

Webster, (1994) states that while absolute attainment of all five freedoms is unrealistic, these freedoms represent an "experience" to make the best of a complicated and challenging situation. These need to be carefully taken into account when designing husbandry systems for farm animals since they need to be able to adjust to them well in order to prevent unnecessary suffering and, as a result, produce well under ideal circumstances. The welfare of animals must be

taken into account realistically, avoiding both stereotypes and purely mechanical thinking.

Conversely, the Five Domains extended the fundamental requirements for animal welfare described in the Five Freedoms, emphasizing both functional and physical welfare in all aspects of behaviour, mental state, health, nutrition and environment.



Fig 2: Five Domain related to animal welfare

Components of animal welfare

The three conceptual frameworks; biological functioning, affective state, and natural living are essentially used to evaluate the welfare of animals (Fraser, 2003) ^[15].

Basic health and functioning: According to Broom, (1986) ^[6] welfare is said that an animal's condition in relation to its attempts to become accustomed to its surroundings is what defines its welfare. This condition related to the level of biological activity that underlies coping mechanisms, encompassing the engagement of physiological stress responses, immune defence, body repair systems, and a range of behavioural reactions (Denton *et al.* 2009) ^[10].

Affective state: According to Duncan and Fraser (1997) ^[14], the second conceptual framework highlights that an animal's ability to have affective experiences determines its welfare. Therefore, when unpleasant effects predominate, the welfare state is likely to be detrimental, and vice versa.

Natural Living: When animals are free to show their natural behaviour, their welfare is improved. According to Fraser, (2008) ^[18], some individuals interpret this to mean that the animal should grow up in a "natural" environment and be allowed to behave in "natural" ways.

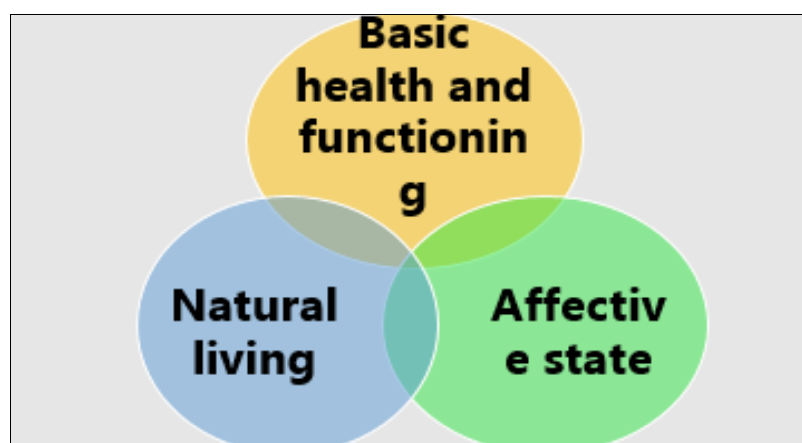


Fig 3: Three components of animal welfare (Adapted from Fraser, 2008) ^[18]

Definitions of animal welfare

Brambell committee, (1965) ^[5] stated that "Welfare is a wide term that embraces both the physical and mental well-being of the animal".

According to Hughes (1976a) ^[24] welfare is a "state of complete mental and physical health, where the animal is in harmony with its environment".

OIE (The World Animal Health Organisation), Animal welfare means how an animal is coping with the conditions in which it lives. An animal is in a good state of welfare if; it is healthy, comfortable, and well nourished, safe, able to express innate behaviour and it is not suffering from unpleasant states such as pain, fear and distress. Good animal welfare requires disease prevention and veterinary treatment, appropriate shelter, management, nutrition, humane handling and humane slaughter.

"A Life Worth Living" definition, animal welfare refers to an animal's observed quality of life, whether it be favourable or

adverse, depending on how the animal feels at a given moment and place.

Animal rights and animal welfare

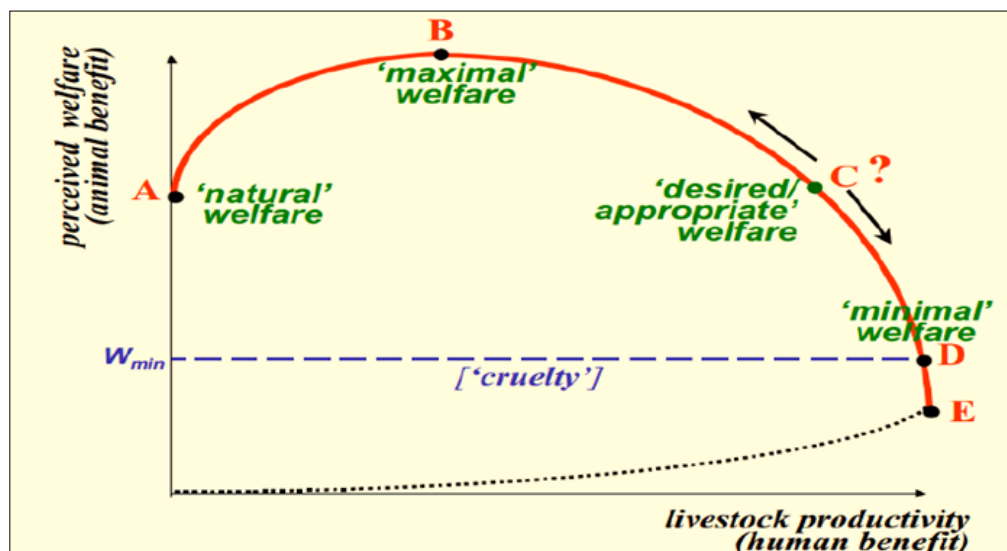
According to Singer, (1976) ^[37], all living beings including humans and animals are equally valuable, and both should have equal rights. The term "animal rights" refers to the philosophical view that animals ought to have certain rights, such as the freedom to exist without interference from humans, whereas animal welfare is the goal of ensuring an appropriate standard of life and a humane death for animals, without necessarily opposing their usage. It is the desire to prevent unnecessary suffering for animals. Animal rights and animal liberation ideologies, which believe that animals shouldn't be utilized for human benefit or seen as their property, are sometimes contrasted with the views of animal welfare.

Table 1: The variation between animal welfare and animal rights

Animal Right	Animal Welfare
Based on ethics and philosophy	Based on science and research
Criticize and condemn the use of animals by humans	Does not criticize and condemn the use of animals by humans
Believers of giving animals the same rights as humans	Promotes for the most optimal available wellness and standard of living

Welfare and Productivity model (McInerney model): The welfare-productivity model demonstrates that, above a certain

threshold, higher welfare requirements imply a small reduction in terms of livestock productivity.

**Fig 3:** McInerney welfare and animal productivity model

The curve shows livestock productivity on the horizontal axis, whereas animal welfare level is on the vertical axis. In this model, A is the initial point, after this increment in input will also rise the productivity of the animal as well as welfare standard which is true up to point B in the curve. After point B in the curve increase in the inputs may enhance the productivity of the animal but reduce the welfare. Point D represents the minimum welfare concern of the animal that is unacceptable in terms of welfare of the animal by society. It's possible that this process will continue to point "E," where the animals are pushed to the breaking point and the system

breaks down.

Animal welfare principles and criteria defined in the Welfare Quality® project

The Welfare Quality® initiative created an assessment tool with multiple criteria. The four pillars of welfare that form the foundation of this system are good housing, good feeding, good health, good housing, good health, appropriate behaviour, which are separated into 12 categories, are created, and after that combined to provide a comprehensive assessment at the farm level (Welfare Quality® consortium 2009a, b, c).

Table 2: Animal welfare principles and criteria defined in the Welfare Quality® project

Principles	Criteria
Good feeding	1 Absence of prolonged hunger
	2 Absence of prolonged thirst
Good housing	3 Comfort around resting
	4 Thermal comfort
	5 Ease of movement
Good health	6 Absence of injuries
	7 Absence of diseases
	8 Absence of pain due to management procedures
Appropriate behaviour	9 Expression of social behaviours
	10 Expression of other behaviours
	11 Good human-animal relationship
	12 Positive emotional state

Assessment of animal welfare: According to Fraser and Broom, (1997) ^[14] the entire concept of animal welfare and its assessment may incorporate values and judgments as well as ethical decisions about how animals ought to be treated. However, it is true that the assessment of welfare can be carried out in a scientific way without the involvement of

moral considerations. Thus, there is a growing integration of science and philosophy such that the scientific approach to animal welfare may be linked to ethical perspectives, although this is not always true. In reality, scientists studying animal welfare started to acknowledge the significance of

subjective experiences, while ethicists started to look at empirical evidence to address ethical problems.

The largest animal welfare project in Europe was the Welfare Quality project. The objective was to create European guidelines for evaluating animal welfare. The "Five Freedoms" were re-examined as part of the Welfare Quality initiative, which also refined and expanded upon them into Welfare Quality Assessment Protocols (Blokhuis *et al.*, 2010) [2].

Health: Animal welfare requires that animals be in a healthy physical state. Anything that lowers health must inevitably lower welfare as well. It is important to take into account the prevalence of infectious, parasitic, and metabolic disorders in addition to the degree of physical harm that occurs in a certain system or after a particular method (Lindgren, 1978) [27].

Production: Production or productivity as a measure of welfare has been shown to have risks in the past. Sometimes more production is an indicator of poor welfare, as sometimes animals are forced to produce up to a maximum level without considering ethics and welfare.

Physiology: According to Selye, (1950) physiological stress indicators, such as elevated levels of plasma glucocorticoids, greater activity of the pituitary and adrenal cortex, and arousal of the sympathetic nervous system, would provide a completely objective assessment of welfare.

Behaviour: Animal welfare is significantly influenced by the emotions that animals feel, and it is widely acknowledged that focusing on emotions is a necessary component for effective animal care (Lawrence *et al.*, 2019) [26]. Using behaviour as a welfare indicator can involve identifying odd or improper behavioural changes in an individual. One way to assess welfare would be to compare behaviour in the setting under examination with that of an expected ideal. Hughes, (1976a) [24] suggested that, determining what is normal, natural or ideal behaviour is one of the challenges in assessing behavioural changes in a domestic species. The best way to evaluate animal welfare is to use indicators that are based on the experiences of animals in their natural habitat.

Animal Welfare Continuum

The Animal Welfare Continuum is a concept that recognizes animal welfare as a spectrum, ranging from poor welfare to excellent welfare. It acknowledges that animal welfare can vary in degree and quality, and that animals can experience different levels of welfare depending on their circumstances (Ohl and Staay, 2012) [34].

The continuum typically includes the following categories:

- **Poor welfare:** Animals experiencing neglect, abuse, or exploitation.
- **Basic welfare:** Animals' basic needs are met, but they may not have access to enriching experiences.
- **Good welfare:** Animals have access to adequate resources, social interaction, and some enriching experiences.
- **Excellent welfare:** Animals have optimal physical and mental health, social interaction, and enriching experiences that promote their well-being.

The Animal Welfare Continuum is a useful tool for:

- Assessing animal welfare in different rearing system

- Identifying areas for improvement
- Guiding policy and decision-making

Some recognized organisations related to animal welfare

- Universities Federation of Animal Welfare (UFAW)
- American Society for the Prevention of Cruelty to Animals (ASPCA)
- Humane Society of the US
- Humane Society International (Australia)
- Best Friends Animal Society (Australia)
- World Society for the Protection of Animals (WSPA)
- Royal Society for the Protection of Animals (RSPCA)
- Humane Society of the United States (HSUS)
- International Fund for Animal Welfare (IFAW)
- Animal Legal Défense Fund (ALDF); Bousfield and Brown, (2010)

Global aspect of animal welfare

Globally, animal welfare is progressively growing in importance. Every religion in the world advocates treating animals with love and opposes the cruel treatment of animals (Nielsen and Zhao, 2012) [32]. There is no recognized definition of animal welfare; instead, it varies from nation to nation and occasionally even between areas within the same nation (Wilkins *et al.*, 2005) [45]. There are no set standards by which we may evaluate the welfare of animals. The Organization for Animal Health (OIE) includes animal welfare to its 2001–2005 Strategic Plan. The focus of emphasis has shifted from farm animal welfare to explicit animal welfare guidelines developed by the OIE. International pressure can be applied by member countries through animal welfare standard (OIE, 2016) [35].

International trades and animal welfare

The establishment of OIE guidelines represents a significant global accomplishment in the field of animal welfare. Following the World Trade Organization's (WTO) trade regulations, these standards may have an impact on international trade. In the case that a supply is prohibited because of concerns about animal welfare, it can be challenged considering two, including first off, it is undeniable that there is a connection between animal welfare and the prevalence of diseases and injuries; nevertheless, this connection is not cited as justification for an import country's restriction on the import of animals from nations or businesses that violate animal rights and secondly, WTO regulations state that it is not possible to distinguish between two comparable products based on how they are prepared (WTO, 2014) [46]. However, consumer demand has forced numerous international corporations to take animal welfare into account (Allender and Richards, 2010) [1]. Animal welfare-focused NGOs are pressuring food manufacturers to declare the product's animal welfare status on the label. This tendency has forced numerous international food companies to promote products that adhere to standards for animal welfare.

Welfare issues in animals across the world

Over the past century, farming trends have completely transformed. The globe has switched to intensive farming, which has reduced costs and increased animal production. Although this approach appears to be excellent from an economic perspective, animal welfare is mostly ignored in it (Harris, 2005) [21]. The care and management of dairy calves,

the welfare of dairy cows, the impact of husbandry management practices on the beef cattle, rearing sows in farrowing crates and the broiler industry have been the main animal welfare concerns in the livestock industry in recent years. Since animals spend most of the day within the shed, animals are unable to behave naturally. The incidence of hoof issues in cattle is increased in houses with concrete floors (Fraser, 2008) ^[18]. Around the world, laying hens are raised in cages for commercial purposes. In 2012, the European Union restricted the battery cage method of raising laying hens because of health and animal welfare concerns. However, the US, Australia, and New Zealand are among the developed nations do not have such laws. In India also there are no rules and regulations regarding layers kept in cage system of rearing (Lundmark *et al.*, 2014) ^[28]. Irrespective of this broiler are mostly kept in deep litter system. Overcrowding and quick growth are two of the major issues in broilers confront (Horne and Achterbosch, 2008) ^[40]. The European Union established rules in 2010, on the spacing of broilers based on the farm's mortality rate and shed environmental control. There is no such established guideline for bird spacing in Asia. Nowhere in the world is there a rule on increased leg abnormalities in broilers as a result of their rapid growth. 75% of the daylight hours are spent by wild pigs rooting and foraging (Horgan and Gavinelli, 2006) ^[23]. In intensive farming systems, when pigs are housed in overcrowded housing, such activities are not feasible. They begin biting each other's tails out of frustration (Deen, 2009) ^[9].

Methods for enhancing welfare through management

- Animal welfare is something that managers need to be concerned about (Grandin, 2005) ^[19].
- Farmed animals should have access to some natural behaviour either naturally or by using enrichment methods.
- Farmed animals must have adequate space and be kept in groups of the same kind.
- It is necessary for farmed animals to remain healthy and vigorous; they need to have easy access to feed and water.
- It's also critical to monitor for symptoms of illness, stress, disease, infestation, and lameness.
- Animals raised in intensive housing should be housed in structures with efficient ventilation systems and clean and fresh bedding material in order to improve their welfare. Kite, (2009) ^[25].

Laws related to animal welfare

Laws related to animal welfare are necessary in order to protect animals from abuse and cruelty and to create environments that allow them to exhibit their natural behaviours. These laws and regulations differ from nation to nation. Animal welfare rules require a constant evaluation of the welfare of the animal, taking into account not only its physical state but also the reasons for it. This usually requires the careful and knowledgeable evaluation of a wide range of elements that are both internal and external to the animal. A few of the variables are the inputs (such as food and shelter), the stockperson (such as skills and resources), and the animal's internal health (Robertson, 2015). Austria, Switzerland, the United Kingdom, Germany, the Netherlands, and Denmark are a few of the nations with strict laws regarding the welfare of animals.

Austria: Values both human and animal life equally.

Denmark: Condemns the slaughtering of animals.

Switzerland: It was the first nation that preserved the dignity of animals.

UK: Stronger punishments for animal abuse and neglect.

Germany: Provide animals with constitutional protection.

Netherlands: Prohibition on using apes in research and prohibiting using animals to test cosmetics.

Animal welfare act: The Secretary of the United States Department of Agriculture is directed by the AWA to establish minimum requirements for the handling, care, treatment and transportation of these animals. The main federal law protecting animals is the Animal Welfare Act (AWA), which was enacted in 1966. The AWA primarily deals with animals that are bred for commercial purposes and sold, as well as animals kept in zoos and laboratories.

Humane slaughter act: This legislation was first enacted in 1958 and then revised in 1978. In order to reduce pain, animals must be stunned into unconsciousness prior to slaughter, as mandated by the Humane Methods of Slaughter Act.

Animal welfare board of India: The Animal Welfare Board of India was established by statute to provide advice on animal welfare laws and to advance animal welfare throughout the nation. Developed in 1962 in accordance with the Prevention of Cruelty to Animals Act, 1960, Section 4. Under the direction of the renowned humanitarian Smt. Rukmini Devi Arundale, the Animal Welfare Board of India was established.

List of India's Policies and Laws Pertaining to Animal Welfare

- Prevention of Cruelty to Animals (PCA) Act, 1960
- Draught and Pack Animals Rules, 1965
- Transport of Animals Rules, 1978 and its Amendment Rules, 2009
- Breeding of and Experiments on Animals (Control and Supervision) Rules, 1998
- Slaughter House Rules, 2001
- Prevention of Cruelty to Animals (Egg Laying Hens) Rules, 2019
- Wildlife Protection Act, 1972

Conclusion

Animal welfare is a multifaceted field that has evolved significantly over time, reflecting our growing understanding of the complex needs and experiences of animals. Historically, animal welfare has transitioned from a focus on preventing cruelty to a broader concern for the well-being of animals, incorporating their physical, psychological, and environmental needs. In conclusion, while significant strides have been made in improving animal welfare, ongoing efforts are needed to address gaps in regulation, enforcement, and global standards. As our understanding of animals' needs continues to evolve, so too must our approaches to ensuring their well-being, fostering a world where animals are not only free from suffering but also thrive in their environments.

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