



AN OVERVIEW OF THE IMPLEMENTATION OF CRUELTY PREVENTION MEASURES AND THE TRANSFORMATIVE ROLE OF ARTIFICIAL INTELLIGENCE IN ANIMAL WELFARE

Prof. (Dr.) Rajinder Verma, Pro-vice Chancellor, Chairman Department of Laws, Himachal Pradesh University Shimla.

Ms. Shilpa Thakur, PhD Research Scholar, Department of Laws, Himachal Pradesh University, Shimla.

rajindervermahpu@gmail.com : thakurshilpa2015@gmail.com

ABSTRACT

The implementation of animal welfare laws in order to prevent cruelty towards animals is crucial for ensuring their welfare. In India, the Prevention of Cruelty to Animals Act, 1960, provides a foundational legal framework aimed at addressing abuse and neglect. However, despite legislative progress, enforcing these laws remains challenging. This paper explores strategies for enforcing animal welfare laws and emphasizing the need for a multi-faceted approach involving legal reforms, administrative support, and societal change to ensure the humane treatment of animals in India. It also highlights the significant role of Artificial Intelligence (AI) in enhancing these efforts.

AI stands out as a transformative tool for overcoming enforcement obstacles. With advanced technologies such as machine learning, computer vision, and predictive analytics, AI improves the ability to detect, monitor, and prevent animal cruelty. AI-powered surveillance systems offer realtime monitoring of animal habitats and facilities, quickly identifying mistreatment and alerting authorities. Predictive models analyze behavioral patterns and environmental conditions to foresee potential risks, enabling preemptive interventions. Additionally, AI facilitates automated welfare assessments, ensuring consistent and objective evaluations of animal conditions.

Despite its potential, integrating AI in animal welfare raises ethical and practical concerns. Issues such as data privacy, algorithmic bias, and the potential reduction of human empathy



in welfare practices need careful consideration. This paper concludes that while AI significantly enhances the prevention of cruelty towards animals, a balanced approach that integrates technological innovation with robust ethical standards and human oversight is essential for sustainable and effective animal welfare practices¹.

Keywords- Artificial Intelligence, Animal Cruelty, Implementation, Animal Welfare.

INTRODUCTION

Animal cruelty involves the abuse or neglect of animals, often placing them in harmful or frightening situations intentionally. Most investigations into animal cruelty concern large-scale operations affecting numerous animals simultaneously. This issue is pervasive, occurring in various forms and regions globally. It is distressing to note that every minute, an animal is subjected to harm, which is particularly egregious given the advancements in human society. In India, millions of animals are killed for religious rituals, experimentation, entertainment, commercial purposes, and to supply meat for the non-vegetarian population. Comparing the treatment of animals in India to that in developed nations reveals significant differences in animal welfare practices².

Animal rights are rooted in the belief that animals possess inherent rights and should be safeguarded from unnecessary suffering and exploitation. Ensuring animal welfare involves focusing on their well-being and humane treatment. Recognizing animal rights is crucial for ethical animal treatment and contributes positively to ecosystems and society. India has seen a significant rise in animal rights movements in recent years, supported by various constitutional provisions, legislative measures, international conventions, and judicial rulings. Indian culture also reveres certain animals, equating them with deities, and theories emphasize animals' sentience and legal rights³.

¹Prachi Lalit Mishra, "Legal Aspect of artificial Intelligence for Animal Welfare: Navigating the Regulatory Landscape,"(IJCRT), Volume11, Issue9, September2023.

² Available at: "Stop killing stray dogs in Kerala, Supreme Court tells vigilante groups", India news Hindustan Times,(9,Nov.2016), visited on 21-08-2023.

³ Ganesh Vajrapu, "Assessing the legal framework for animal rights and welfare in India,"July 12(2023).



The framers of the Indian Constitution considered animal rights, as reflected in the Directive Principles of State Policy (Part IV) and Fundamental Duties (Part IVA), which mandate citizens to protect and care for animals. International agreements, such as the Universal Declaration on Animal Welfare, also advocate for animal protection, recognizing their sentience and urging governments to ensure their welfare. However, the current situation for animals in India does not meet these expectations. Animal protection laws are poorly enforced, and there is widespread apathy toward animal welfare. Authorities often neglect to implement regulations designed to prevent animal exploitation⁴. According to the Bombay Society for Prevention of Cruelty to Animals, 19,028 cases of animal cruelty were recorded over five years without any arrests or convictions. The Prevention of Cruelty to Animals Act, 1960, stipulates that cruelty to animals is a punishable offense, but the penalties are minimal, ranging from 10 to 100 rupees, which fails to act as a deterrent⁵. Other issues include a lack of veterinary services, public awareness, and outdated penalties. Change requires a collective effort from both the government and citizens⁶.

In recent years, Artificial Intelligence has become a transformative tool in animal welfare. AI technologies, including machine learning, computer vision, and predictive analytics, provide innovative solutions for implementing and enforcing animal protection laws. AI enhances the detection, monitoring, and prevention of animal cruelty through real-time surveillance, predictive risk assessments, and automated welfare evaluations⁷. But there are lots of challenges faced by artificial intelligence for proper enforcing of animal protection laws.

The implementation of the Prevention of Cruelty to Animals Act, 1960 involves several key aspects.

Despite India enacting various legislations since Independence, it ironically holds a C grade in the World Animal Protection Index, highlighting the need for substantial changes in the current legal framework for effective enforcement. The issue of animal cruelty persists,

⁴ People for animals, available: at <https://peopleforanimalsindia.org/> last visited on 21-08-2023.

⁵ Navya Jain and Muskan Jain, “*Animal cruelty and rights: Review and Recommendations*,” International Journal of policy sciences and law, Volume1, issue2.

⁶ Janhvisohlanki, “*Need of strict laws to prevent animal cruelty*,” Manipal University Jaipur, 7th jan.2021.

⁷ Saskia stucki, “*Towards a theory of legal animal rights: simple and Fundamental Rights*,” oxford Journal of legal Studies, volume40, Issue3, (2020).



even though it is criminalized, due to certain exceptions that justify such actions in specific contexts. Similarly, while artificial intelligence presents significant potential in addressing these challenges, it also introduces ethical and practical concerns, including data privacy, algorithmic bias, and diminished human empathy etc.⁸

Amendment in outdated Laws:

India has enacted several laws to address animal cruelty and ensure their safety and protection. These include constitutional, legislative, statutory, and international laws aimed at preventing cruelty towards animals. Notable provisions include Article 48, which deals with the organization of agriculture and animal husbandry, and Article 51A(g), which focuses on protecting and improving the natural environment, including forests, lakes, rivers, and wildlife, and fostering compassion for living creatures⁹. Sections 428 and 429 of the Indian Penal Code¹⁰ address the maiming or killing of animals, but the Prevention of Cruelty to Animals Act (PCA) 1960 and the Wildlife Protection Act 1972 are the most significant. Various government and non-government organizations work to protect animal rights, and law enforcement agencies play a crucial role in implementing these laws. However, the effectiveness of these laws in curbing animal cruelty remains a pressing concern. Several provisions in the Prevention of Cruelty to Animals Act are outdated and require amendments to align with contemporary societal needs¹¹

One major issue is the ambiguity and lack of clarity in the Act's definitions, such as the phrase "to prevent the infliction of unnecessary pain or suffering on animals." This phrase is vague, and the term "unnecessary" is subjective, leading to varying interpretations. Additionally, the phrase "pain or suffering" should be revised to "pain and suffering" to acknowledge their interdependence.

⁸ TaruniKavuri, "Constitutional Scheme of Animal Rights in India," Michigan state university of Law (2020).

⁹ See Article 48 and 51A(g) of the Constitution of India, To protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures of Constitution of India.

¹⁰ See Section 428, 429 of Indian Penal Code 1860.

¹¹ See Section 11 or section 31 of Prevention of Cruelty to Animals Act, 1960.



The PCA Act, 1960, includes numerous exceptions that undermine animal protection, such as those found in Section 11(3), which allows for animal husbandry procedures like dehorning, castration, nose-roping, and branding. Another significant issue is the outdated penalties for animal cruelty, which have remained unchanged for six decades and range from Rs 10 to Rs 50 for first-time offenders, rendering them ineffective as deterrents. This has led to situations where individuals accused of severe cruelty face minimal consequences.

Furthermore, offences classified as cruelty under the PCA Act of 1960 are non-cognizable, except for specific instances such as animal fights, shooting, and injecting harmful chemicals. This necessitates amendments to the outdated PCA Act to address contemporary challenges and uphold Article 51A(g) of the Indian Constitution, which mandates compassion for all living creatures.

In addition to central legislation, various states in India have enacted their own laws and regulations to address animal welfare and cruelty. These state-level statutes often strengthen and modify the provisions of the Prevention of Cruelty to Animals Act and the Wildlife Protection Act. The specific clauses, fines, and enforcement methods can differ from state to state. Some states have also implemented laws to regulate animal slaughterhouses, the transportation of animals, and the protection of working animals. Efforts are ongoing to enhance enforcement mechanisms, increase penalties for offenses, and broaden the scope of animal rights protection across the country. This includes individuals responsible for investigating reports of animal cruelty, collecting evidence, and prosecuting offenders. Proper training of law enforcement personnel in animal welfare laws and procedures is crucial to ensure effective enforcement¹².

Changes in Animal Welfare Organisations:

Animal welfare organizations at the national, state, and district levels, including non-governmental organizations, play a crucial role in implementing animal protection laws in

¹² Upasna Bohra, “*An analysis of constitutional scheme of animal rights in India*,” Open Access Journal, Volume 6-2021.



India. Prominent organizations such as the Animal Welfare Board of India, People for Animals (PFA), Federation of Indian Animal Protection Organizations (FIAPO), Humane Society International India, Blue Cross of India, and Wildlife Protection Society of India (WPSI) are dedicated to enhancing animal welfare laws. These groups engage in advocacy, awareness campaigns, rescue and rehabilitation efforts, and collaboration with government and other stakeholders. to promote animal welfare. Each state requires an active State Animal Welfare Board with sufficient funding to operate effectively. Similarly, each district should have a Society for Prevention of Cruelty to Animals (SPCA) actively working to enforce the PCA and related rules. Establishing a dedicated ministry, state boards, and SPCAs can help reduce cruelty, raise public awareness, and combat public apathy over time.

Many animal welfare organizations operate on limited budgets, heavily relying on donations and volunteer support, which can limit their capacity to implement comprehensive programs and initiatives for animal protection. Some organizations may lack the necessary expertise, staff, or infrastructure to effectively address complex animal welfare issues, hindering their ability to provide adequate care, conduct investigations, or engage in advocacy efforts. Even with strong animal protection laws, enforcement can be challenging due to limited resources, corruption, or lack of political will.

These organizations often struggle to hold perpetrators of animal cruelty accountable and ensure consistent law enforcement. Societal indifference or hostility toward animal welfare concerns can make it difficult for these organizations to mobilize public support or influence policymakers. Cultural norms, economic interests, and competing priorities may also pose barriers to advancing animal rights.

Furthermore, the lack of robust data on the prevalence of animal cruelty, its impacts, and effective intervention strategies can hinder the ability of organizations to make a compelling case for change. While international collaboration can provide valuable support and



expertise, some animal welfare organizations may face challenges in accessing global networks or resources due to geographical or institutional barriers¹³.

Addressing these challenges requires concerted efforts from animal welfare organizations, policymakers, civil society, and the public. Strategies to overcome these obstacles include improving funding and capacity-building support for organizations, strengthening legal frameworks, fostering collaboration and coordination among stakeholders, raising public awareness, and advocating for systemic changes to prioritize animal rights and welfare¹⁴. Providing training and resources to animal welfare organizations can enable them to effectively enforce animal protection laws. This includes educating staff and volunteers on animal welfare standards, investigation techniques, and legal procedures. Additionally, fostering partnerships with law enforcement agencies can ensure a prompt response to reports of animal cruelty, involving establishing protocols for collaboration, conducting joint training sessions, and sharing information on animal cruelty cases¹⁵.

Awareness and Education:

“Education is not the learning of facts, but the training of the mind to think.”
—Albert Einstein

It is crucial to educate the public about the provisions of the Act, including what constitutes cruelty to animals and the penalties for violations. This can be achieved through awareness campaigns, educational programs in schools, and disseminating information via various media channels. Local bodies like gram panchayats, municipal corporations, and allied civic bodies are responsible for implementation. Effective implementation ensures the purpose of enacting the rules is fulfilled with a system of checks and balances. Many animal welfare agencies and organizations face resource constraints, making it challenging to effectively investigate and prevent animal cruelty cases. This lack of resources can hinder the

¹³ Shri S,P Gupta, “Mandate of animal Welfare Board is to prevent cruelty , suffering and pain of all creature,” 4th June 2018.

¹⁴ Dr. S. Chinny Krishna, “Animal Citizen Animal welfare Board of India,” July to September 2012.

¹⁵ Ibid.



enforcement of animal welfare laws. Limited public awareness about animal welfare issues also poses challenges in implementing and enforcing these laws. Raising awareness and educating the public about animal rights and the importance of animal welfare is crucial to ensure compliance¹⁶.

However, flaws in the current legal system, such as a lack of explicit acknowledgment of animal rights and inadequate legal safeguards, persist. The need for legislative framework reforms is further emphasized by challenges in implementing and enforcing animal welfare legislation and insufficient penalties for animal cruelty offenses. Addressing these weaknesses will require ongoing efforts to strengthen legislation, increase resources for enforcement, raise public awareness, and promote a broader understanding of animal welfare issues. Laws alone cannot ensure animal protection. Therefore, a significant investment should be made in public education and awareness campaigns about animal welfare issues and existing legal provisions. This can help foster a culture of empathy and respect towards animals, which is critical for the effective protection of animal rights.

Engaging with stakeholders to formulate effective policies:

Engaging with various stakeholders, such as animal welfare organizations, veterinarians, legal experts, and the public, is essential in formulating effective policies and regulations for animal rights. This collaborative approach ensures that different perspectives and expertise are considered in the decision-making process¹⁷. By implementing these recommendations, India can enhance its legal framework for animal rights and welfare, ensuring better protection for animals across the country. Improving the enforcement mechanisms for animal welfare laws in India is crucial. This includes providing adequate resources to animal welfare agencies, empowering them with legal authority, and establishing dedicated units for investigating and prosecuting animal cruelty cases. Using various methods, such as

¹⁶ Archana Jain and Rakesh Kumar, "Awareness on Animal Education, Rights and Welfare," Volume 1 Issue 3, 30 September, 2019.

¹⁷ Jill Ferandes, "Addressing Animal Welfare through Collaborative Stakeholder Networks," 19th April 2019.



surveys, interviews, workshops, or focus groups, to collect feedback, opinions, and suggestions from the public on animal welfare issues is also essential¹⁸.

Changes in Legal System:

Cases of animal cruelty must be addressed through the legal system. This involves filing complaints, conducting thorough investigations, and prosecuting offenders in accordance with the provisions of the Act. Legal proceedings should be conducted efficiently, and appropriate penalties should be imposed on those found guilty of cruelty to animals. Proving animal cruelty in court can be challenging, especially in cases where evidence is limited or witnesses are reluctant to come forward. Prosecutors may face difficulties in establishing intent or demonstrating the extent of harm inflicted on the animal. Legal definitions of animal cruelty may vary between jurisdictions and be open to interpretation, leading to inconsistencies in how cases are prosecuted and adjudicated. Additionally, limited resources for law enforcement agencies, animal control units, and prosecutors can hinder their ability to investigate and prosecute animal cruelty cases effectively. This may result in low clearance rates and a backlog of unresolved cases. Jurisdictional issues may arise in cases involving multiple jurisdictions or overlapping legal authorities, and coordination between agencies and jurisdictions may be lacking, delaying or complicating the legal process¹⁹.

Animal Health and Infrastructure

India is home to a diverse range of animal species, and the livestock sector plays a critical role in the country's economy and food security. However, this sector is also vulnerable to threats posed by emerging and zoonotic diseases. The Animal Pandemic Preparedness Initiative and the World Bank-funded "Animal Health System Support for One Health" are comprehensive efforts to address animal pandemics in a holistic manner. By strengthening animal health systems and implementing the One Health approach, we can better prevent and control zoonotic diseases, which not only impact the health and welfare of animals but also have significant economic and human health implications. This initiative aims to

¹⁸ Available at: <https://www.fao.org>. ,FAO Expert meeting, Capacity building to implement good animal welfare practices visited on 10-09-2023.

¹⁹ Jessica Vapnek, Megan Chapman, "Legislative and Regulatory Options for Animal Welfare,"FAO2011.



enhance India's preparedness and response to animal pandemics, with a focus on zoonotic diseases that pose a threat to both animal and human health. It seeks to improve veterinary services and infrastructure, enhance disease surveillance capabilities, and build the capacity of animal health professionals. Additionally, it aims to raise awareness among farmers through community outreach. By working together to implement One Health initiatives, we can promote sustainable and healthy practices that benefit both people and the environment. Key elements include integrated disease surveillance and monitoring, early warning and response systems, vaccine diagnostics, ecosystem coordination, and regulatory framework enablers²⁰.

Conflict between State Laws and Central Legislation:

Conflicts between state laws and central legislation, such as the Prevention of Cruelty to Animals (PCA) Act, can arise from differences in scope, provisions, and enforcement mechanisms. Some common conflicts include:

- **Variation in Definitions and Scope:** State laws may define animal cruelty differently or cover a broader or narrower range of activities compared to the PCA Act. This can lead to inconsistencies in the interpretation and prosecution of animal cruelty across different states.
- **Disparities in Penalties:** State laws may prescribe different penalties for animal cruelty offenses, leading to variations in punishment for similar offenses committed in different states. In some cases, state penalties may be more lenient or more severe than those outlined in the PCA Act.
- **Jurisdictional Conflicts:** Conflicts may occur when state laws and the PCA Act overlap or contradict each other in terms of jurisdiction. This creates uncertainty about which law applies in cases involving animal cruelty that spans multiple jurisdictions.
- **Exemptions and Exceptions:** Some state laws may include exemptions or exceptions for certain practices, such as farming, hunting, or religious rituals, which may conflict

²⁰ Available at :<https://pib.gov.in>, ministry of fisheries and animal husbandry, dairying, visited on 14th dec.2023.



with the PCA Act. These exemptions can undermine the effectiveness of animal protection laws and create loopholes for abuse.

- **Enforcement Challenges:** Inconsistencies between state and central legislation can complicate enforcement efforts. Conflicting mandates or unclear jurisdictional authority may hinder effective law enforcement and lead to gaps in animal protection.
- **Cultural and Regional Differences:** Regional cultural norms and differences can influence how state laws are formulated and implemented, leading to varying approaches to addressing animal cruelty.

Addressing these conflicts requires coordination and potential amendments to align state and central legislation. Promoting consistency and clarity within the legal framework for animal protection is essential for ensuring the welfare of animals across all jurisdictions. Collaboration between state and central authorities, as well as engagement with stakeholders such as animal welfare organizations and legal experts, can help resolve these conflicts effectively.

Government Support:

The implementation of the Prevention of Cruelty to Animals (PCA) Act is overseen by the Ministry of Fisheries, Animal Husbandry, and Dairying at the central level, and by state animal husbandry departments at the state level. These governmental bodies are tasked with formulating policies, drafting rules and regulations, and ensuring the enforcement of animal welfare laws. Several government schemes in India promote animal welfare²¹, including:

- Rashtriya Gokul Mission
- E-PashuHaat Portal
- National Animal Disease Programme
- National Livestock Mission
- Livestock Health and Disease Control Scheme

²¹ Aditya Bhamenya, “*Animal Welfare in India: Striving for Compassionate Coexistence*,” May 22, 2023.



- Dairy Development
- Animal Husbandry Infrastructure Development Fund
- National Artificial Insemination Programmes²², etc.

Adequate funding, resources, and institutional support are critical for the effective implementation of the PCA Act. Governments should allocate sufficient funds for animal welfare programs, enforcement activities, and the operation of animal shelters and rescue facilities. Additionally, creating an online portal for public suggestions on improving animal welfare conditions could foster greater community involvement and innovation in policy development.

Public Participation:

Engaging the public in efforts to prevent animal cruelty is crucial. Citizens must be aware of recent legislation that protects animals, enabling them to understand both their rights and the rights of animals. This knowledge allows them to work alongside the government and NGOs towards common objectives²³. By broadening the scope of Article 51A(g) of the Indian Constitution, which calls for compassion for living creatures, we can strive to make life more comfortable for all animals. Citizens can contribute in various ways, such as:

- Providing food and water to stray animals.
- Refraining from harming or killing stray or wild animals.
- Preventing poaching, selling, or buying animals or animal products.
- Reporting such activities to the nearest police station, NGO, or local authority.

Additionally, refusing to buy products tested on animals, avoiding circuses and zoos, reducing plastic usage to protect the environment, and reporting incidents of animal trafficking or poaching are all actions that contribute to animal welfare. Each of these efforts, no matter how small, makes a significant impact. Charles Darwin aptly stated, "The

²² Available at: Government Schemes and Interventions to Promote Animal Rearing in India, <https://insightsonindia.com>.

²³ Raj Krishna, Teresa Dhar, "Issues and Challenges faced by the Government in Protection of Animal Rights," DNLU, June 26, 2020.



love for all living creatures is the most noble attribute of man.” By treating animals with the same respect and compassion as we do our fellow humans, we can foster a more humane society. Public participation in reporting animal cruelty cases can greatly aid in enforcing animal protection laws. Public support for animal welfare initiatives can also pressure policymakers to strengthen and better implement these laws.

Raising a compassionate generation is key. Teaching children and young people to be kind and empathetic towards all beings will help build a society that genuinely cares for animals. Educating them about animal rights and responsibilities can bring about significant change, as future generations will inherently understand and uphold these principles. Encouraging students to care for and feed animals in their locality can alleviate some of the burden on government agencies, fostering a community-driven approach to animal welfare.

Judicial Activism

The active involvement of judges, lawyers, and animal rights NGOs can significantly enhance the enforcement of existing animal protection laws. Media coverage of crimes against animals, along with on-air discussions, can raise public awareness and disseminate information on a broader scale. Such efforts can help improve the conditions of nonhuman species, ensuring they are freed from their suffering, thereby achieving true justice for them²⁴.

Granting legal status to animals, applying the doctrine of *parens patriae*, and shifting from anthropocentric to eco-centric environmentalism are all approaches being adopted by the judiciary. The Supreme Court has taken significant steps in animal jurisprudence, and this trend is being followed by both central and state-level courts. These efforts aim to protect animals from cruelty associated with slaughter, experiments, entertainment, trade, and other inhumane activities²⁵.

Role of Artificial Intelligence

²⁴ Upasana borah, Monika Bharati, “*Role of Judiciary in Protection of Animal Rights*,” 14 april, 2021.

²⁵ Parkas Sharma and ParthaPratim Mitra, “*Role of Supreme Court in Developing the concept of animal rights in India*,” 21 July 2020.



Artificial Intelligence (AI) has emerged as a transformative force across various sectors, including animal welfare. By leveraging advanced technologies, AI offers innovative solutions to prevent animal cruelty, enhancing the monitoring, detection, and response to abuse and neglect.

Positive Impact of Artificial Intelligence:

Artificial Technologies such as tracking animals via their footprints, skin texture, and sounds, have proven effective. Drones equipped with GPS and SIMs can monitor wildlife, ensuring they remain within their habitats and protecting them from poachers. Strict laws and penalties are essential to address poaching, animal trafficking, and unethical practices in entertainment and experimentation industries. Proper categorization of animals based on the International Union for Conservation of Nature (IUCN) list of endangered species is crucial for effective resource allocation and protection.

Technological advancements like DNA analysis and barcoding are game-changers, allowing investigators to trace the origins of illegal animal products and maintain a comprehensive species identification library. Acoustic traps and thermal imaging can track illegal activities, such as logging, while virtual watch-rooms using real-time satellite imagery help monitor marine creatures and detect suspicious vessels to prevent illegal fishing²⁶.

In India, the fusion of tradition and innovation has led to significant technological solutions in animal welfare. Startups across the country are utilizing AI to revolutionize animal care. For instance, in Mumbai, WildEye employs AI-powered camera traps to aid wildlife conservation. These devices capture high-resolution images and videos, enabling conservationists to monitor individual animals, study their behavior, and detect signs of distress or danger, thus enhancing efforts to protect endangered species²⁷.

²⁶ Available at :<https://thelogicalindian.com> , Revolutionizing animal welfare Indian startup lead with AI Technology, visited on 23-12-2023.

²⁷ Prachi Lalit Mishra, "legal aspects of Artificial Intelligence for Animal Welfare: Navigating the Regulatory Landscape," *International Journal of Creative Research Thoughts*, Volume 11, Issue 9, Sept. 2023.



Similarly, in Delhi, Pet Pulse is transforming pet welfare with an innovative mobile app that uses AI-powered facial recognition to analyze pets' emotional states. This technology allows pet owners to promptly address pain or discomfort, strengthening the human-animal bond and improving pet care. The integration of AI in animal welfare extends beyond immediate benefits. It positively impacts various sectors, including dairy farming, by improving food safety, product quality, and disease prevention. AI advancements, such as improved surveillance systems, predictive analytics, and automated welfare assessments, bolster efforts to safeguard animal rights and enable proactive and efficient interventions.

AI technology can also aid in tracking and recording animal cruelty cases. Advanced surveillance systems and AI-driven machinery can help identify and monitor offenders, locate crime scenes, and maintain detailed records of animal abuse cases. Additionally, robot veterinary doctors and other advanced medical tools can enhance animal health monitoring and care. Social media and AI-driven educational platforms can promote humane treatment of animals and shape public opinion, while smart collars and microchipping can prevent abandonment and theft. Overall, AI's integration into animal welfare practices provides significant opportunities to advance protection, care, and public awareness, making it an invaluable tool in the fight against animal cruelty²⁸.

The enhancement of animal welfare through AI-driven technologies has significant ripple effects across various sectors, including dairy farming. These advancements contribute to improved food safety, higher-quality products, and reduced disease incidence. Key benefits of AI in this area include enhanced surveillance systems, predictive analytics for identifying animals at risk, and automated welfare assessments. These innovations strengthen efforts to protect animal rights, allowing for more proactive and efficient interventions.

Advanced machinery and technology can mitigate the unnecessary distress that animals often experience. AI can monitor every aspect of an animal's life, from behavioral patterns to health conditions, and address issues promptly. For instance, in India, the Prevention of Cruelty to Animals Act of 1960 provides penal provisions against animal cruelty. AI can aid in

²⁸ Darshita Jain ,Ankita Singh, “*Revolutionizing Animal Welfare: Indian start ups Leads With AI Technology*,” 4th jan.2024.



identifying offenders and maintaining an authenticated record of such offenses, enhancing law enforcement efforts.

AI technologies, such as robotic veterinary doctors and advanced medical analysis tools, can help maintain animal health by providing precise diagnostics and treatment. Surveillance systems powered by AI can monitor changes in animal behavior, alerting caretakers to potential health or welfare issues.

Furthermore, AI can play a crucial role in public education and opinion formation regarding animal welfare. Advanced streaming services and social media platforms can disseminate information about humane treatment practices, fostering greater awareness and empathy.

Technologies like smart collars can prevent animal abandonment, thereby reducing offenses against animals. Microchipping can deter theft by ensuring animals are easily identifiable. Additionally, AI-powered recording systems can assist investigators in documenting and managing details of offenses against animals, facilitating better enforcement and prosecution. Overall, AI-driven technologies can significantly improve animal welfare, ensuring better health and humane treatment for animals across various sectors²⁹

Negative Impact of Artificial Intelligence:

The integration of Artificial Intelligence (AI) in animal welfare presents both opportunities and challenges. While AI has the potential to revolutionize how we monitor and protect animals, it also introduces ethical and practical concerns. Key issues include:

1. **Ethical Concerns and Privacy:** The use of AI raises significant ethical questions regarding data privacy and the reliability of algorithms. There is a risk that reliance on AI could reduce human oversight and empathy in animal welfare practices. For example, technologies designed to enhance animal care might be misused, leading to unintended harm. Activities like night-time lighting in chicken barns to boost

²⁹Prachi Lalit Mishra, "Legal Aspect of artificial Intelligence for Animal Welfare: Navigating the Regulatory Landscape,"(IJCRT), Volume11, Issue9, September2023.



productivity, poor husbandry practices, or crop harvesting that inadvertently injures field animals are examples of unintentional harm.

2. **Criminal Misuse:** AI technology can be exploited for criminal activities, such as illegal wildlife trafficking. While AI-enabled trackers and drones can aid in wildlife conservation, they can also be used by malicious actors for poaching or trophy hunting. Instances of drones being used to harass marine mammals or poachers hacking telemetric data to hunt protected species, such as Bengal tigers, illustrate this risk.
3. **Companion Animal Privacy:** AI tools designed to track and monitor companion animals, like smart collars or video interfaces, can also pose privacy risks. These technologies, which are often integrated into broader smart home systems and the Internet of Things (IoT), might be exploited to observe and potentially harm both animals and their owners.
4. **Ethical and Legal Issues:** There are concerns about whether data collected for positive purposes could be repurposed to harm protected animals. Furthermore, AI systems used for animal welfare may be vulnerable to hacking by national or foreign agents, potentially leading to cyber espionage or other malicious activities.
5. **Intensive Farming Practices:** In livestock farming, AI-driven precision farming aims to maximize productivity, often at the expense of animal welfare. Intensive farming practices can severely restrict animal behavior and autonomy, leading to negative experiences, unfulfilled desires, deprivations, and death.
6. **AI in Medical Research:** AI's role in medical research, particularly in the development of new drugs and treatments, may involve testing on animals. For instance, Neuralink, a company working on brain-computer interfaces, has faced scrutiny for alleged violations of animal testing laws and harm to monkey subjects.
7. **Environmental Impact:** The growing use of AI-enabled drones and automated systems in environmental monitoring and fishing may disrupt ecosystems. For example, automated underwater systems designed for waste removal or selective fishing might inadvertently harm non-target species.



To address these challenges, it is crucial to implement a balanced and regulated approach to AI use in animal welfare. Government oversight and formal regulations are needed to ensure that AI technologies are used ethically and effectively, minimizing harm to animals and protecting their welfare³⁰

CONCLUSION

The Prevention of Cruelty to Animals Act, 1960, represents a significant step towards safeguarding animal welfare in India. Enacted to prevent cruelty and ensure humane treatment, the Act outlines various provisions and regulations governing the treatment of animals across different contexts. The Act empowers authorities to take action against abuse, neglect, and exploitation of animals, promoting a culture of compassion and respect towards all living beings.

However, despite its noble intentions and legal framework, challenges persist in effectively implementing the Act. Inadequate resources, lack of awareness, and gaps in enforcement continue to hinder its full realization. Additionally, evolving societal attitudes and emerging ethical considerations demand continuous review and updating of the Act to address contemporary challenges and ensure its relevance in safeguarding animal welfare. Its true impact lies in the collective commitment of society to uphold the principles of compassion, empathy, and respect towards all living beings. Through continued advocacy, education, and collaboration, we can strive towards a future where animals are treated with the dignity and care they deserve. Addressing these loopholes requires a multifaceted approach involving legislative amendments, increased enforcement efforts, public awareness campaigns, and collaboration between government agencies, non-profit organizations, and the public. Amendments to the Prevention of Cruelty to Animals Act, 1960, may be necessary to address evolving societal attitudes towards animal welfare, fill gaps in existing legislation, and enhance the protection of animals in various contexts.

³⁰ Simon Coghlan, Christine Parker, “*Harm to Non- Human Animals from AI: A Systematic Account and Framework*”, philosophy and technology, April 2023.



Artificial Intelligence (AI) has both positive and negative impacts on animal cruelty. On the positive side, AI technologies have significantly advanced capabilities for monitoring, detecting, and preventing animal cruelty. AI-powered surveillance systems can monitor animal habitats and agricultural practices in real-time, quickly detecting signs of abuse or neglect. Machine learning algorithms can analyze vast amounts of data to identify patterns of cruelty, enabling timely interventions. Additionally, AI-driven simulations and models can help researchers develop humane and ethical alternatives to animal testing, reducing the number of animals subjected to experimentation.

Conversely, the negative impacts of AI on animal cruelty cannot be overlooked. The development and deployment of AI systems can inadvertently lead to new forms of animal exploitation. For example, the use of AI in intensive farming practices can result in increased animal suffering if not properly regulated. The focus on efficiency and productivity driven by AI may lead to conditions where animals are treated merely as commodities. Furthermore, the use of AI in wildlife management and conservation, if not ethically guided, might result in invasive monitoring techniques that disrupt natural behaviors and habitats.

While AI offers powerful tools for combating animal cruelty and promoting humane treatment, it also presents challenges that require careful consideration and ethical oversight. The positive potential of AI in reducing animal cruelty can be fully realized only through responsible development, strict regulations, and ongoing efforts to mitigate its negative impacts.