

## BEYOND THE HUMAN SCREEN: CASE STUDY OF BOVINE RELATIONALITY AND ECOCRITICAL FUTURES

\* Miss. Priyanka Kobalkar

*Student & Research Scholar , Department of English, K. J. Somaiya College of Arts and Commerce*

### Abstract:

*This paper presents a case study of bovine–human relationality in the desert ecologies of western India, focusing on Kachchh, located at the edge of the Thar desert. Based on The Kachchh Cattle Study 2024, a field investigation conducted across nine talukas and forty villages, the research examines the ecological, economic, and cultural dimensions of cattle rearing in arid regions. The study documents how cattle continue to play a central role in household livelihoods, ecological adaptation, and cultural practices despite persistent challenges such as fodder scarcity, inflation, and modernization. The paper is framed within Third World Environmentalism, emphasizing the interconnection between poverty, ecological degradation, and resource distribution, and engaging with the concept of the environmentalism of the poor. Drawing on perspectives from Ecocriticism, Eco-Marxism, Eco-Feminism, Deep Ecology, and critiques of Anthropocentrism, the study situates pastoral practices and panjrapole within broader debates on multispecies ethics, sustainability, and social justice. The research further identifies a gap in existing digital cattle-management technologies, which remain largely text-based, linguistically exclusive, and inaccessible to illiterate pastoral and tribal communities. The paper outlines the need for accessible, multilingual, voice-based digital tools as a potential intervention to support cattle care, ecological sustainability, and rural livelihoods, while maintaining the ethical and cultural dimensions of human–animal relationships in arid landscapes.*

**Keywords:** *Third World Environmentalism; Environmentalism of the Poor; Ecocriticism; Bovine Relationality; Desert Ecology; Kachchh; Panjrapole; Eco-Marxism; Eco-Feminism; Anthropocentrism; Technology and Ecology*

**Copyright © 2026 The Author(s):** This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial Use Provided the Original Author and Source Are Credited.

### Introduction:

This study is situated at the intersection of pastoral literature, ecocritical theory, and Third World environmental realities, using Kachchh as a living archive of human–animal relationality under ecological stress. Moving beyond romanticized Western pastoral traditions, the paper frames Kachchh as a “counter-pastoral” landscape, where survival is shaped by scarcity, labor, and ethical responsibility rather than leisure or abundance (Williams). Drawing upon eco-Marxist, ecofeminist, deep ecological, and postcolonial environmental frameworks, the paper examines how cattle function not merely as economic assets but as ecological agents,

cultural kin, and ethical subjects within a fragile desert ecology. Anchored in *The Kachchh Cattle Study 2024*, the research positions Kachchh as an ecocritical site where literature, lived ecology, and political economy converge.

#### **Statement of the Problem:**

Despite the centrality of cattle to pastoral survival in arid regions, contemporary development models increasingly treat livestock through anthropocentric and capitalist logics, reducing them to units of productivity while externalizing ecological and emotional costs onto marginalized communities. In Kachchh, rising fodder prices, shrinking commons, disease outbreaks, and institutional neglect threaten both cattle survival and pastoral lifeworlds.

Existing technological and policy interventions remain linguistically, culturally, and structurally inaccessible, reinforcing ecological injustice. The problem this study addresses is the growing rupture between traditional ecological knowledge and modern regimes of capital, governance, and technology, and the absence of relational, multispecies perspectives in environmental planning.

#### **Significance of the Study:**

The study is significant on multiple levels. Literarily, it extends pastoral and postcolonial ecocriticism by grounding theory in empirical field data from the Global South. Theoretically, it synthesizes eco-Marxism, ecofeminism, deep ecology, and Third World environmentalism to analyze cattle not as metaphors but as co-survivors. Socially, it foregrounds the invisible labor of care, particularly women's ecological work, often erased from economic metrics (Shiva). Environmentally, it contributes to debates on justice-oriented sustainability, emphasizing survival rather than preservationist ideals. Finally, the study opens a futuristic intervention, proposing accessible, voice-based AI systems rooted in local languages and ethics.

#### **Limitations of the Study:**

While the research offers a multidisciplinary perspective, it is limited geographically to selected talukas of Kachchh and temporally to the 2024 fieldwork period. Quantitative data, represented through pie charts, capture proportional patterns but cannot fully articulate emotional, cultural, or ethical dimensions of loss. The study also does not include long-term longitudinal climate data or comparative regional analysis, which could further strengthen its predictive scope.

#### **Objectives of the Study:**

The objectives of this research are:

1. To examine cattle rearing in Kachchh as a multispecies ecological practice rather than a purely economic activity.
2. To analyze pastoral life through eco-Marxist, ecofeminist, and deep ecological frameworks.
3. To situate Kachchh within Third World environmentalism, where ecology and survival are inseparable.
4. To interpret quantitative data critically, revealing structural inequality and ecological precarity.
5. To explore the ethical role of panjrapols as counter-capitalist institutions of care.

6. To propose inclusive, relational technological futures grounded in ecological justice.

**Hypothesis of the Study:**

**H1 (Research / Alternative Hypothesis)**

Cattle in Kachchh function as ecological partners rather than expendable economic resources, and their survival and well-being are significantly sustained through relational ethics, gendered care labor, and socio-cultural values, while capitalist restructuring and technological exclusion exacerbate ecological vulnerability; conversely, accessible, care-centered, and culturally inclusive technological interventions have the potential to enhance multispecies resilience and sustainability.

**H0 (Null Hypothesis)**

Cattle in Kachchh function primarily as economic resources, and their survival is determined predominantly by market efficiency and institutional management, with relational ethics, gendered care labor, and socio-cultural values having no significant impact on ecological sustainability; further, capitalist restructuring and technological accessibility do not significantly influence ecological vulnerability or multispecies resilience.

**Literature Review:**

1. The present study is situated at the intersection of pastoral literary studies, ecocriticism, and political ecology, drawing upon critical traditions that interrogate the relationship between nature, labor, power, and cultural memory. Central to this framework is Raymond Williams's seminal critique of pastoral idealization in *The Country and the City*, where he dismantles the romantic myth of the rural as timeless harmony and instead foregrounds the countryside as a "working landscape" shaped by labor, inequality, and historical struggle (Williams). This insight is crucial for reading Kachchh not as an idyllic pastoral but as a lived ecology marked by endurance, scarcity, and multispecies interdependence.
2. Eco-Marxist scholarship further deepens this analysis. John Bellamy Foster's *Marx's Ecology* exposes how capitalist systems alienate both human and non-human life by commodifying nature and externalizing ecological costs onto marginalized communities. Foster's work provides a critical lens to understand how fodder inflation, enclosure of commons, and uneven access to veterinary care in Kachchh are not isolated agrarian failures but structural outcomes of capitalist ecological relations (Foster). This critique is reinforced by Joan Martínez-Alier's formulation of the *Environmentalism of the Poor*, which reframes environmental struggle in the Global South as a fight for survival, livelihood, and justice rather than aesthetic conservation (Martínez-Alier). His work is foundational in positioning Kachchh within Third World Environmentalism, where cattle function as life-sustaining ecological partners rather than surplus capital.
3. Indian environmental historiography, particularly Madhav Gadgil and Ramachandra Guha's *This Fissured Land*, situates pastoral and agrarian communities as "ecosystem people" whose livelihoods remain embedded within local ecological cycles. Their work emphasizes that sustainability in India has historically emerged from culturally embedded practices rather than technocratic interventions (Gadgil and Guha). This perspective resonates strongly with the panjrapol system and household cattle rearing in Kachchh, where ecological care is sustained through ethical, religious, and communal frameworks.

4. Ecofeminist theory, particularly Vandana Shiva's *Staying Alive*, exposes the gendered dimensions of ecological labor, revealing how women's care work, feeding, cleaning, nursing, and sustaining life, remains invisibilized within dominant development narratives (Shiva). This framework is vital for interpreting the unrecorded yet essential role of women in maintaining cattle survival in Kachchh, especially in contexts of disease, drought, and institutional neglect.
5. Literary interventions further enrich this study's analytical depth. Mahasweta Devi's fiction and essays foreground environmental injustice as inseparable from caste, class, and tribal marginalization, portraying human–animal relationships as ethical sites of resistance against extractive modernity (Devi). Similarly, Amitav Ghosh's *The Great Derangement* critiques modernity's failure to acknowledge non-human agency and climate catastrophe, arguing that the ecological crisis is also a crisis of imagination (Ghosh). These literary texts provide narrative and ethical vocabularies through which the lived realities of Kachchh's pastoral communities can be read as forms of ecological testimony rather than data alone.
6. Additionally, Arne Naess's Deep Ecology challenges anthropocentric hierarchies by asserting the intrinsic value of all life forms, offering an ecocentric framework to interpret cattle not as expendable resources but as participants in a shared ecological web (Naess). Rob Nixon's concept of "slow violence" further illuminates how ecological harm in regions like Kachchh unfolds gradually through neglect, disease, and infrastructural absence, disproportionately affecting vulnerable communities (Nixon).

Collectively, these theoretical, historical, and literary works form the critical scaffolding for the present study. They enable a reading of Kachchh as both a material ecology and a literary-ecocritical text, where cattle embody ecological agency, cultural memory, and ethical responsibility. The existing literature, however, largely neglects the role of accessible, inclusive technology in sustaining such multispecies relationships—particularly in low- literacy, linguistically marginalized pastoral communities. By foregrounding this gap, the present study extends environmental literary discourse into the domain of ecocritical futurity, where care-centered, language-inclusive technological interventions are imagined as tools for ecological justice rather than instruments of extraction.

#### Research Methodology:

This study employs a mixed qualitative–quantitative research methodology to examine bovine relationality within the fragile pastoral ecologies of Kachchh.

- **Primary data** were collected during fieldwork conducted in February 2024 across nine talukas of Kachchh, using semi-structured interviews, participant observation, and site visits to households, panjrapols, dairies, and farms. Quantitative data concerning cattle population, mortality rates, household ownership, and institutional concentration were analyzed through proportional visualizations (pie charts) to identify structural patterns, ecological vulnerability, and asymmetries of care.
- **Secondary data** comprise literary texts, environmental history, ecological theory, and environmental sociology, situating the field findings within a broader humanities- based ecological discourse. The analytical framework integrates ecocriticism, eco- Marxism, ecofeminism, deep ecology, Third World

environmentalism, and postcolonial studies, enabling a critical reading of cattle not merely as economic units but as ecological agents embedded in cultural memory, gendered labor, and subaltern lifeworlds. This interdisciplinary methodology allows the study to read Kachchh simultaneously as a lived pastoral ecology and an ecocritical text, bridging empirical data with literary and theoretical interpretation.

#### **Data Analysis and Interpretation:**

Quantitative findings reveal significant institutional concentration of cattle within a few panjrapols and a mortality rate that, while statistically moderate, carries disproportionate ecological and emotional weight in desert economies. Interpreted through Third World environmentalism, these figures expose structural inequality, uneven care distribution, and ecological vulnerability. Ecofeminist analysis highlights the unrecorded labor sustaining high survival rates, while deep ecology reframes cattle loss as a rupture in ecological relations rather than economic deficit. The data thus function not as neutral statistics but as ethical indicators, demanding relational and justice-oriented responses.

#### **Introduction : A Fragile Pastoral at the Edge of Survival:**

Kachchh, located on the western edge of Gujarat at the threshold of the Thar Desert, is a landscape where survival is neither accidental nor romantic. It is a region shaped by scarcity of water, of cultivable land, of institutional care, yet sustained through long-standing relationships between humans, cattle, and a fragile ecology. In Kachchh, environmentalism is not a matter of abstract preservation; it is a daily negotiation between life and loss. This condition situates the region squarely within what scholars identify as **Third World**

**Environmentalism**, where ecological concerns are inseparable from poverty, livelihood, and social justice rather than wilderness protection alone (Guha and Martínez-Alier). Historically a crossroads of civilizations, from the Harappan settlement of Dholavira to later influences from Sindh, Persia, Marwar, and Gujarat, Kachchh bears a layered cultural memory

embedded in pastoral practices, artisanal traditions, and oral narratives. These cultural forms function as ecological texts, encoding strategies of adaptation in a harsh environment. Unlike the idealized pastoral landscapes of Western literary tradition, the pastoralism of Kachchh reflects what Raymond Williams terms a “working country” a lived ecology shaped by labor, precarity, and unequal power relations rather than pastoral leisure (Williams). This distinction is crucial, as it resists anthropocentric fantasies of nature as scenic background and instead foregrounds multispecies interdependence. Ecologically, Kachchh exemplifies vulnerability. With an average annual rainfall of less than 400 mm and frequent drought cycles, agricultural stability remains uncertain. In this context, cattle emerge as ecological mediators, converting sparse vegetation into sustenance, recycling resources, and stabilizing household economies.

As N. S. Jodha observes, livestock in dryland regions function as systems of “risk distribution, resource recycling, and cultural identity” (1170). This relationship challenges anthropocentric development models that treat animals as expendable resources, aligning instead with **ecocentric** and **Deep Ecological** perspectives that recognize non-human life as integral to ecological balance rather than subordinate to human utility (Naess).

This paper is grounded in **The Kachchh Cattle Study 2024**, a multidisciplinary field investigation conducted across nine talukas: Bhachau, Rapar, Mandvi, Anjar, Mundra, Bhuj, Lakhpat, Abdasa, and Gandhidham, by Somaiya Vidyavihar University and K. J. Somaiya College of Arts & Commerce, Mumbai. Through interviews, site visits, and observational analyses at panjrapole, farms, and households, the study documents the socio-cultural, economic, psychological, medical, and environmental dimensions of cattle rearing. The findings demonstrate that despite rising fodder costs, shrinking grazing commons, inflation, and market dependency, cattle remain central to survival and cultural continuity.

However, this pastoral ecology is increasingly destabilized by **capitalist agrarian restructuring**, a condition illuminated by **Eco-Marxist** analysis. Market-driven dairy economies commodify cattle as units of productivity, erasing their ecological and ethical value while transferring environmental risk onto marginalized rural communities. Grazing lands shrink as commons are enclosed or repurposed, and veterinary care becomes unevenly accessible, reflecting what Marxist ecologists identify as the unequal distribution of environmental costs under capitalism (Foster). Simultaneously, **Eco-Feminist** insights reveal how the labor of care, feeding, cleaning, nursing, and emotionally sustaining cattle, is disproportionately borne by women, remaining undervalued and invisible within both economic metrics and policy frameworks (Shiva). This feminized labor sustains ecological balance yet receives little recognition, reinforcing gendered hierarchies within environmental management.

Institutions such as panjrapole occupy a critical moral position within this landscape. Rooted in spiritual and religious ethics of non-violence, panjrapole resist the total commodification of animal life by sheltering abandoned, injured, and economically “unproductive” cattle.

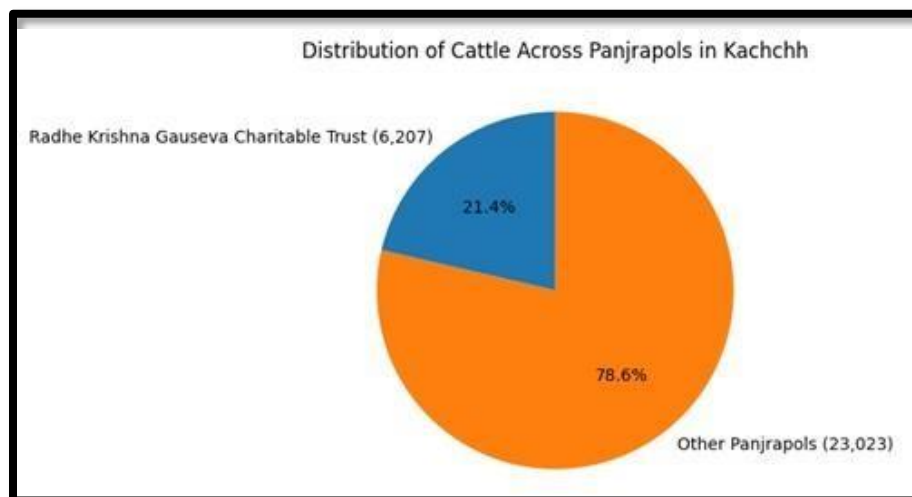
Their existence embodies a counter-anthropocentric ethic, one that values life beyond market logic. Yet these institutions themselves struggle under financial constraints, reflecting the contradiction between ethical environmental care and capitalist neglect. Literarily, these realities resonate with postcolonial environmental writing that foregrounds ecological injustice rather than ecological nostalgia. The rural landscapes of Mahasweta Devi expose how environmental degradation disproportionately burdens marginalized communities, while Amitav Ghosh critiques modernity’s refusal to acknowledge non-human agency and climate vulnerability. Kachchh, like these literary terrains, emerges as a site where environmental crisis is lived as economic anxiety, cultural erosion, and emotional dislocation rather than abstract catastrophe.

The urgency of this study lies in the accelerating rupture between traditional ecological knowledge and contemporary regimes of development, governance, and technology. As climate instability deepens and pastoral livelihoods are pushed to the margins, the future of human–animal relationality in regions like Kachchh stands at a critical threshold. This paper positions the region as a living ecocritical text, one that demands an environmentalism grounded not in exclusionary preservation but in justice, care, and multispecies survival.

### 1. *Quantitative Analysis:*

Pie charts have been employed to represent proportional relationships within the dataset, particularly institutional concentration and mortality ratios, allowing for immediate visual comprehension of structural imbalance and ecological vulnerability. The pie charts derived from *The Kachchh Cattle Study 2024* do not merely represent numerical distributions; they visualize structural inequalities, ethical tensions, and ecological precarity embedded within desert pastoral economies.

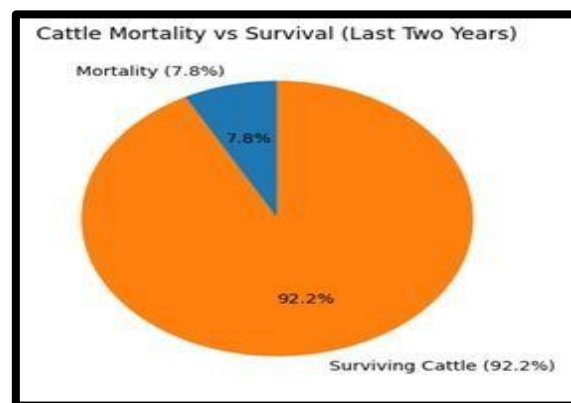
Figure 1 reveals a significant institutional asymmetry: over one-fifth (21.4%) of the surveyed cattle population is concentrated within a single panjrapol, Radhe Krishna Gauseva Charitable Trust, Padhar, while the remaining 78.6% are dispersed across thirty-six smaller institutions. From an Eco-Marxist perspective, this concentration mirrors broader patterns of resource centralization characteristic of capitalist modernity, even within ostensibly charitable systems. While panjrapols function as ethical counter-spaces to market logic, their uneven capacity reflects the material realities of funding flows, donor visibility, and infrastructural access. This distribution also exposes the limits of privatized care in environmental governance. The burden of sustaining cattle life in arid Kachchh is disproportionately borne by a few well-resourced institutions, while smaller panjrapols and households struggle under rising fodder costs and ecological instability. Such imbalance reinforces Guha and Martínez-Alier’s argument that environmental crises in the Global South cannot be disentangled from questions of economic inequality and uneven development, marking this system as a clear instance of Third World Environmentalism, where survival itself becomes an ecological act.



**Fig. 1.** Proportional distribution of cattle across 37 panjrapols surveyed during *The Kachchh Cattle Study 2024*. The Radhe Krishna Gauseva Charitable Trust, Padhar, alone shelters 6,207 cattle, accounting for approximately 21.4% of the total population surveyed (29,230), highlighting the centralization of care within select institutional spaces.

While the survival rate appears high, the mortality percentage remains significant in arid ecologies where each loss carries economic, emotional, and ecological consequences for already vulnerable households.

Figure 2 illustrates a cattle mortality rate of 7.8% over the past two years, primarily due to lumpy skin disease. Though numerically marginal, this percentage assumes grave significance within desert ecologies, where livestock represent not surplus capital but fragile lifelines. In the context of Environmentalism of the Poor, each animal lost signifies not only economic depletion but the erosion of emotional bonds, cultural continuity, and ecological reciprocity. The chart's visual simplicity risks masking the qualitative weight of loss. Mortality here must be read against limited veterinary access, delayed medical intervention, and infrastructural neglect, conditions that disproportionately affect marginalized rural and pastoral communities. The data thus reveal how environmental vulnerability is intensified by structural abandonment, reinforcing the argument that conservation without social justice reproduces ecological violence.



**Fig. 2.** Comparative proportion of cattle mortality (7.8%) versus survival (92.2%) over the past two years, with mortality largely attributed to lumpy skin disease and limited access to timely veterinary care.

### 1. Care, Gendered Labor, and Ecofeminist Insights

Although not explicitly gendered in the charts, the data invoke Ecofeminist concerns by pointing to the invisible labor sustaining cattle survival. Women in rural Kachchh often manage daily feeding, cleaning, and nursing of cattle, forms of care that remain statistically unrecorded yet are critical to maintaining the 92.2% survival rate shown in Fig. 2. The reliance on institutional shelters further marginalizes this domestic, feminized labor, transferring care from intimate, relational spaces to bureaucratic structures. Ecofeminism critiques this displacement as part of a broader epistemic erasure, where nurturing practices are undervalued while technological or institutional solutions are privileged. The charts, therefore, indirectly expose a gendered ecology of care that sustains multispecies life under conditions of scarcity.

### 2. Deep Ecology, Ecocentrism, and Ethical Tensions

From the lens of Deep Ecology, the charts challenge anthropocentric interpretations of utility and loss. Cattle mortality is not merely a reduction in economic assets but a rupture in the web of life that binds soil fertility, pastoral rhythm, and human survival. Panjrapole, despite their structural limitations, gesture toward an ecocentric ethic, where animal life is preserved beyond productivity, resisting the instrumental logic of

capitalism. Yet the necessity of such institutions also reveals a contradiction: care becomes reactive rather than integrative, addressing the symptoms of ecological degradation rather than its systemic causes. This tension underscores the ethical limits of anthropocentric environmental management and calls for a relational framework that recognizes cattle as ecological participants rather than managed dependents.

### 3. *Futurity and the Limits of Quantification*

on survival rates obscures the daily precarity faced by cattle owners navigating disease, drought, and market volatility. This limitation reinforces the need for futuristic, inclusive technological interventions, such as multilingual, voice-based AI systems, that can democratize access to veterinary knowledge and reduce dependency on centralized institutions. In this sense, the pie charts serve not as conclusive evidence but as ethical prompts, inviting a reimagining of human–animal–technology relations grounded in equity, care, and ecological justice.

- **Visit to Panjrapols / Dairy / Farm:** 22<sup>nd</sup> to 25<sup>th</sup> February 2024.

Sr. No.	Name of Panjrapol / Farm / Dairy	No of cattles
1	Matushree Ratanben Bharmal Mapshi Panjrapol, Bhachau	4336
2	Shree Jivdaya Panjrapol	1300
3	Shree Chapredi Gauseva Samiti	120
4	Shree Vivekananad Charitable Trust	400
5	Radhe Krishna Gauseva Charitable Trust, Padhar	6207
6	Madhapar Gau Rakshan Trust	500
7	Shree Momay Gauseva Charitable Trust, Jambudi	500
8	Sajanadh Trust	250
9	Harudi Charitable Trust, Harudi	236
10	Shree Ramkrishna Trust, Kukma	300
11	Ramvav Dairy (Samdi Bhai)	06
12	Bhimsar Gaushala	2200
13	Shree Gaurakshak Seva Samiti Gandhidham	580
14	Adipur gaushala (Mahesh joshi)	1750
15	Sethiya Farm	30
16	Pabuji Maharaj, Bandhara Nana, Ner	1000
17	Kamdhenu Gau Seva Trust, Anjar	1750
18	Shree Gaushala Trust (Mota Varnora)	160
19	Shree Vageshwari Gaushala, Habay	200
20	Ramesh Naudejhamil, Kunaria	300
21	Shree Ramnandi Gaushala Trust, Jamkunariya	200

22	Shree Yadunandan Gauseva Kendra, Sumarasar	200
23	Shree Kandagra Panjrapol Jeevdaya Seva Trust, Kandagra	415
24	Shree Ratadia (Ganesh) Gaushala Panjarapol, Ratadia	715
25	Shree Mangaldeep Foundation Charitable Trust, Patri	269
26	Nakhatrana Gaushala Trust, Piyoni road	750
27	Shree Patidar Seva Sangh and Gauraksha Kendra, Matthal	600
28	Shree Nirona Fulpeerdada Gaushala Trust, Nirona	100
29	Shree Ashapura Mataji Mandir and Gaushala, Nana Ratadiya	156
30	Shree Gadshishajiv Suraksha Jain Charitable and Research Trust, Gadsisa	1350
31	Shree Rampar Gurukul Trust, Rampar	250
32	Shree Dharmbhakti Prem Subodhsuri Aradhna Bhawan Jain Trust, Koday	304
33	Raydhanpur Panjrapol, Raydhanpur	175
34	Govind Gaushala Trust, Chapredi	175
35	Atalnagar Gaushala	250
36	Murlidhar Gaushala Trust, Zikdi	200
37	Kaali Talavadi Gauseva Samiti, Kaali Talavdi	650

• **Households visited:**

Sr. No.	Name of householder	No of cattles	Sr. No.	Name of householder	No of cattles
1	Manjula	02	32	Ramabhai	05
2	Deepali Runchodgagal.	04	33	Pachan bhai	500
3	Karmatrava	01	34	Karsan bhai	05
4	Jesha bhai	04	35	Hari bhai	01
5	Bhoja bhai	04	36	Devshi bhai guruji	200
6	Karsan bhai Mukhi	10	37	Prabhoben sodha	02
7	Ranchodbhai rabari	03	38	Jasuba jadega	02
8	Bhimabhai Rabari	01	39	Jigna ben sodha	01
9	Devabhai rabari	04	40	Ramuben Pala	03
10	Savabhai rabari	04	41	Ramila ben akhadiya	03
11	meghabhai rabari	05	42	Paluben Gandhi	02
12	Thavabhai rabari	03	43	Palji kadsan	02
13	Desarbhai rabari	03	44	JItubhai sisodiya	03
14	Vebhabhai rabari	03	45	Surendrabhai Chaudhary	02
15	Mahesh Thakkar	30	46	Virendra singh sodha	02
16	Bhikha bhai luha	02	47	Dharamba sodha	01

17	Naran ramji desai	02	48	Meenaba sodha	01
18	Ambavi Raghu	01	49	Vajubhai Jalubhai Sodha	01
19	Moti ba	01	50	Manubhai Jalubhai sodha	02
20	Ratan ba	02	51	Pala bhana	02
21	Mahedra sodha	03	52	Jaga pala	03
22	Dhari pancha	03	53	Dilip ghanchordas sodha	02
23	Meenaben rabari	02	54	Premji akhai akhadiya	02
24	Laxmiben rabari	02	55	Ambavi Devraj chaudhary	03
25	Januben Rabari	03	56	Ramesh kadsan	04
26	Manbhai rabari	02	57	Ramesh dharamshree Gandhi	02
27	Jethabhai rabari	02	58	Pareen valji Gandhi	03
28	Laxmiben	02	59	Khamma bha sodha	04
29	Suja bhai	02	60	Jilu bha sodha	60
30	Ridhhi rabari	07	61	Narayan bhai	02
31	Viji rabari	02	62	Shanti ben narsi	03

### Critical Discussion: Cattle, Crisis, and the Fractured Pastoral:

#### 1. *The Crisis of Survival: Ecology under Capitalist Pressure*

The data from Kachchh exposes a stark contradiction at the heart of contemporary pastoral life: cattle remain emotionally sacred yet economically burdensome. Fodder scarcity, inflation, disease outbreaks, and rising medical costs have transformed everyday care into a site of chronic distress. The strong correlation between fodder price escalation and household vulnerability confirms what eco-Marxist theorists identify as the commodification of nature under late capitalism, where survival systems are subjected to market volatility rather than ecological rhythms (Foster 42). What emerges here is not merely an agrarian problem but a structural ecological injustice. The transportation of fodder across districts, its price inflated by fuel costs and intermediaries, exemplifies how rural ecologies subsidize urban and industrial economies. This aligns with Joan Martínez-Alier’s concept of the “ecological debt” borne disproportionately by the Global South, where environmental degradation and climate stress are endured without commensurate economic benefit (Martínez-Alier 58). Kachchh thus becomes a living archive of Third World environmentalism, where survival is negotiated daily against climatic precarity and capitalist neglect.

#### 2. *Pastoral Ethics versus Utilitarian Modernity*

The socio-cultural findings; where 78% of respondents perceive cattle as family, echo the ethical universe of pastoral literature, from classical georgic traditions to postcolonial rewritings. Unlike the romanticized pastoral of abundance, Kachchh represents what Raymond Williams calls the “counter-pastoral,” where rural life is marked by endurance, labour, and sacrifice rather than leisure (Williams 35). This ethical pastoral finds resonance in Indian literary traditions as well. Mahasweta Devi’s writings repeatedly foreground non-

exploitative human–animal relations as acts of resistance against extractive modernity. Her depiction of marginalized communities shows how care for animals becomes a moral stance against systems that value productivity over life (Devi 112). Similarly, Amitav Ghosh’s ecological imagination warns against the erasure of non-human agency in capitalist narratives of progress, arguing that climate crisis is inseparable from cultural amnesia (Ghosh 84).

In Kachchh, the older generation’s refusal to abandon unproductive cattle embodies an ecocentric worldview, where value is not measured by output alone. The younger generation’s shift toward utilitarian attitudes reflects an anthropocentric rupture, mirroring global trends where animals are reduced to economic instruments rather than relational beings.

**a. Panjrapole: Institutional Care and Emotional Absence**

Panjrapols function as paradoxical spaces, simultaneously ethical and bureaucratic. While they shelter thousands of abandoned or injured cattle and demonstrate environmental responsibility through manure recycling and tree transplantation, the absence of emotional bonding highlights a shift from relational ethics to institutional management. This tension aligns with eco-feminist critiques, which argue that care systems detached from empathy risk reproducing patriarchal and capitalist logics of control (Shiva 67). Yet panjrapols also embody hope. Their manure economies, organic farming linkages, and religious philanthropy reflect what Gadgil and Guha describe as the practices of “ecosystem people,” whose livelihoods remain embedded within ecological cycles rather than abstract markets (Gadgil and Guha 133). These institutions reveal that sustainability is not merely technological but ethical and cultural.

**b. Body, Disease, and Ecological Violence**

The prevalence of lumpy skin disease and foot-and-mouth disease reveals another layer of structural violence. Disease here is not accidental but symptomatic of ecological imbalance, climate stress, and infrastructural neglect. The villagers’ reliance on traditional healing methods, particularly among the Rabari community, signals both cultural resilience and systemic exclusion from accessible veterinary care. This condition parallels what Rob Nixon terms “slow violence,” where environmental harm unfolds gradually, invisibly, and disproportionately affects marginalized communities (Nixon 2). The ingestion of plastic and metal by roaming cattle further exposes the ecological costs of consumer culture, where waste becomes a lethal interface between humans and animals.

**c. Technology, Exclusion, and the Digital Divide**

While modern dairy cooperatives and technical support systems exist, they remain linguistically and structurally inaccessible to many pastoral communities. Most technological interventions assume literacy, digital fluency, and stable connectivity, conditions absent in many villages. This reflects a broader problem of language exclusivity in technological design, where innovation speaks the language of the elite while silencing subaltern users. A voice-based AI interface in regional languages, designed for low-literacy users, could radically transform this landscape. Such technology could disseminate real-time information on fodder management, disease prevention, sustainable practices, and alternative income

generation using dung, urine, and by-products. By centering accessibility, such an intervention would align with eco-feminist and subaltern ethics, technology not as domination, but as care.

**d. *Toward a Futuristic Pastoral: Reimagining Human–Animal Futures***

The findings compel an urgent rethinking of sustainability, not as abandonment of tradition, but as its ethical evolution. The cattle–human bond in Kachchh represents what deep ecology terms an ontological kinship, where humans are not masters of nature but participants within it (Naess 95). Preserving this bond is not nostalgic; it is futuristic. Pastoral and subaltern literature teach us that survival lies in relationships, not extraction. As Ghosh reminds us, the climate crisis is also a crisis of imagination, our inability to envision non-exploitative futures (Ghosh 129). Kachchh offers such an imagination: where cattle are ecological partners, dung becomes fertilizer, care becomes resistance, and technology serves life rather than capital.

**Conclusion: Beyond the Human Screen, Toward an Ethics of Relational Futures**

This study has argued, across data, theory, and literary imagination, that the crisis of cattle in Kachchh is not an isolated agrarian problem but a civilizational question, one that asks how futures are to be imagined when human survival is inseparable from non-human life. What unfolds in Kachchh is a fragile pastoral at the edge of collapse, where cattle are at once kin, capital, ecological agents, and ethical subjects. The findings compel us to recognize that the erosion of this bond signals not progress, but a deepening rupture produced by capitalist modernity, ecological neglect, and technological exclusion. From an eco-Marxist perspective, the data reveal how pastoral life absorbs the hidden costs of development, fodder inflation, disease, enclosure of commons, while urban and industrial economies reap its benefits (Foster). Through the lens of Third World Environmentalism, Kachchh stands as a living archive of survival, where environmentalism is practiced not as luxury conservation but as daily resistance against scarcity and dispossession (Guha and Martínez-Alier). Ecofeminist insights expose how the invisible labor of care, performed largely by women, sustains both cattle life and ecological balance, even as it remains unrecognized within policy and technological design (Shiva). Deep Ecology and ecocentrism remind us that each animal lost is not a statistical reduction but a rupture in the web of life itself (Naess).

Literarily, the region speaks the language of a counter-pastoral. Unlike the idyllic landscapes of classical pastoral, Kachchh resonates with what Raymond Williams calls a “working country,” marked by endurance rather than leisure, by care rather than consumption (Williams). In this sense, the lived realities of Kachchh echo the ethical terrains of Mahasweta Devi’s marginalized ecologies and Amitav Ghosh’s insistence on recognizing non-human agency within the climate crisis. Here, cattle are not metaphors; they are co- survivors. Yet the study also reveals a decisive fault line: technology exists, but it does not speak to those who need it most. Contemporary systems assume literacy, connectivity, and linguistic dominance, rendering pastoral communities technologically invisible. This is where the future must intervene, urgently and ethically.

The conclusion of this paper, therefore, is not merely diagnostic; it is futural and propositional. What Kachchh demands is a relational, AI-driven intervention that does not replace pastoral knowledge but amplifies it. A

multilingual, voice-based AI application: designed in regional languages, accessible to low-literacy users, and rooted in local ecological practices, can become a transformative bridge between tradition and futurity. Such an app could:

- provide real-time veterinary guidance and early disease alerts,
- offer fodder planning and climate-adaptive strategies,
- disseminate sustainable practices using dung, urine, and by-products,
- enable innovative, ethical capital generation without ecological harm, and
- preserve oral knowledge by translating lived wisdom into shared digital memory.

Crucially, this technology must be guided by care, not control, aligned with ecofeminist ethics, subaltern accessibility, and ecocentric values. In doing so, AI ceases to be an extractive tool of surveillance capitalism and becomes an instrument of ecological justice.

The urgency of this intervention cannot be overstated. As climate instability accelerates and pastoral life worlds are pushed further to the margins, the loss at stake is not only economic but ethical and imaginative. If the human–cattle bond collapses, what disappears with it is an entire way of inhabiting the world, one that understands survival as interdependence rather than domination. In reimagining Kachchh as a living ecocritical text, this paper asserts that the future of sustainability lies beyond the human screen: in technologies that listen, in development that cares, and in environmentalism that remembers its most vulnerable custodians. To sustain cattle in Kachchh is, ultimately, to sustain a vision of life where progress is measured not by accumulation, but by the capacity to live together, human and non-human, in dignity, reciprocity, and hope.

- **Photos with Geo-Tags:**





Visit to farm to learn sustainable agriculture using cattles



Visit to Ner village



Visit to dairy supported by AMUL



School visit in Ramvav to learn the perspectives of the new generation about cows



Students interacting with cattle owners in Galpadar village



Cattle treatment area in the animal hospital



Students interacting with veterinary doctor in Panjrapol Meghpar



### Bibliography:

1. Devi, Mahasweta. *Imaginary Maps*. Translated by Gayatri Chakravorty Spivak, Routledge, 1995.
2. Foster, John Bellamy. *Marx's Ecology: Materialism and Nature*. Monthly Review Press, 2000.
3. Gadgil, Madhav, and Ramachandra Guha. *This Fissured Land: An Ecological History of India*. Oxford UP, 1992.

4. Ghosh, Amitav. *The Great Derangement: Climate Change and the Unthinkable*. U of Chicago P, 2016.
5. Guha, Ramachandra, and Joan Martínez-Alier. *Varieties of Environmentalism: Essays North and South*. Earthscan, 1997.
6. Jodha, N. S. “Livestock and Livelihoods in Dryland Regions.” *Economic and Political Weekly*, vol. 31, no. 17, 1996, pp. 1170–1174.
7. Martínez-Alier, Joan. *The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation*. Edward Elgar, 2002.
8. Naess, Arne. *Ecology, Community and Lifestyle*. Translated by David Rothenberg, Cambridge UP, 1989.
9. Nixon, Rob. *Slow Violence and the Environmentalism of the Poor*. Harvard UP, 2011.
10. Shah, Mihir. “Cooperative Federalism and the Water Crisis in India.” *Economic and Political Weekly*, vol. 54, no. 7, 2019, pp. 33–41.
11. Shiva, Vandana. *Staying Alive: Women, Ecology and Development*. Zed Books, 1988.
12. Williams, Raymond. *The Country and the City*. Oxford UP, 1973.
13. *Kachchh Cattle Study 2024*. Field Research Report, Somaiya Vidyavihar University and K. J. Somaiya College of Arts & Commerce, Mumbai, Feb. 2024.

**Cite This Article:**

Miss. Kobalkar P. (2026). *Beyond The Human Screen: Case Study of Bovine Relationality and Ecocritical Futures..* In *Educreator Research Journal: Vol. XIII (Issue I)*, pp. 285–303.

Doi: <https://doi.org/10.5281/zenodo.19886299>