Nomadic Tribes and the Integration of Health, Wellness, and Traditional Ecological Knowledge in India

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Figure 1
Nomadic pastoral family in Rajasthan at a temporary desert encampment, illustrating the intergenerational transmission of ecological knowledge and community-based health practices among mobile tribes in India. Photograph by intek1 / iStock.

ABSTRACT

This paper examines the intersection of health, wellness, and traditional ecological knowledge (TEK) among nomadic and denotified tribes in India through a critical ethnographic and feminist lens. Drawing on fieldwork conducted with the Raika, Van Gujjar, and Sansi communities, the study highlights how these groups sustain culturally rooted health systems that are deeply embedded in ecological relationships, seasonal rhythms, and gendered knowledge transmission. Despite possessing rich medicinal and healing traditions, these communities remain excluded from formal healthcare due to historical criminalization, legal invisibility, and policy designs that favor sedentary populations.

The research underscores the need for pluralistic, mobile, and culturally respectful health models that integrate traditional healers, recognize women's roles as health custodians, and protect indigenous knowledge through legal and institutional frameworks. Through thematic analysis, the study proposes a reimagining of public health in India—one that is inclusive, decolonial, and responsive to the lived realities of nomadic peoples. The findings advocate for policy transformation rooted in participatory governance, ecological justice, and epistemic plurality.

Keywords: Nomadic Tribes, Traditional Ecological Knowledge (TEK), Indigenous Health Systems, Feminist Ethnography, Denotified Tribes, Medical Pluralism, Public Health Policy, Epistemic Justice, Gender and Healing, Community Health Integration

1. Introduction

India is home to over 10–12% of its population comprising nomadic, semi-nomadic, and denotified tribes, according to the Renke Commission (2008). These communities remain largely excluded from developmental frameworks due to their mobile lifestyles, historical criminalization, and lack of political visibility (Renke 2008; Bhukya 2014). Despite systemic marginalization, they have preserved intricate systems of traditional ecological knowledge (TEK), especially related to health and wellness, passed orally through generations. This paper explores how these indigenous practices intersect with modern public health, emphasizing how a feminist lens can expose the gendered dynamics of knowledge production, care work, and institutional neglect of women as healers and knowledge bearers (Haraway 1988; Fricker 2007).

Nomadic tribes such as the Banjaras, Van Gujjars, Gaddis, and Rabaris have historically engaged in pastoralism, salt trading, and forest-based livelihoods, which require mobility across regions (Sharma 2010; Baviskar 2003). Their nomadic identity, however, clashes with the sedentarist bias of modern state institutions, which base welfare delivery on fixed domiciles (Scott 1998). As a result, they are systematically excluded from ration systems, health schemes, and electoral representation (NCDNT Report 2017). The colonial-era Criminal Tribes Act (1871) further institutionalized their stigma, branding them as hereditary criminals. Although repealed in 1952, its effects persist through policing practices and social discrimination (Radhakrishna 2001; Bhukya 2014). This history of state violence and bureaucratic invisibility impacts their access to health services, education, and ecological rights.

The dominant public health model in India, structured around Primary Health Centres (PHCs) and state hospitals, operates on a sedentary assumption, failing to serve mobile populations (Dasgupta 2006). Nomadic communities often lack access to basic healthcare due to documentation issues, geographic remoteness, and cultural mistrust toward

biomedical systems (Banerjee & Raza 2020). Government schemes such as Ayushman Bharat require Aadhaar registration and residence proof, which many nomadic tribes lack (Ghosh 2018). Moreover, cultural insensitivity among health workers, who often dismiss indigenous healing as superstition, results in alienation and underutilization of services (Lang & Bartram 2012). This institutional blindness to non-Western health paradigms perpetuates poor health outcomes and reifies the marginality of nomadic lives (Agrawal & Gibson 1999).

TEK encompasses locally evolved knowledge systems that reflect a community's interaction with their ecological environment (Berkes 1999). For nomadic tribes, TEK is inseparable from their landscape forests, rivers, and pastures, where health and healing are based on observations, rituals, and ecological balance (Sundar 2000). Communities like the Van Gujjars use forest herbs to treat respiratory infections and gastrointestinal ailments (Saberwal 1999), while Gaddis of Himachal Pradesh rely on altitude-specific flora for pain and stamina (Kapoor 2015). This knowledge is intergenerational, orally transmitted, and deeply gendered, with women serving as healers, midwives, and caretakers (Virdi 2012). These practices represent not just "traditional medicine" but a holistic worldview in which wellness, ecology, and cosmology are intertwined (Kothari 2014).

From a feminist epistemological standpoint, it is crucial to examine how women in nomadic tribes act as custodians of TEK, especially in health-related practices (Haraway 1988; Harding 1991). Yet, state and scientific institutions often devalue women's knowledge as "unscientific" or "folklore," reflecting what Miranda Fricker (2007) terms epistemic injustice. Nomadic women manage reproductive health, herbal care, childbirth, and spiritual rituals—areas largely ignored in public health discourse (Pande 2011). The triple burden they face, productive, reproductive, and community labor, is compounded by lack of recognition, rights, and voice in policy formulation (Sen & Dreze 2002; Menon 2012). Feminist political ecology argues that when ecological degradation—like deforestation or pollution occurs, women are the most affected, especially in terms of water access, hygiene, and care labor (Agarwal 1992; Rocheleau et al. 1996).

The Crisis of Health Knowledge Integration

Despite the richness of TEK, it is rarely integrated meaningfully into mainstream healthcare. The AYUSH system in India promotes Ayurveda, Unani, and Homeopathy, but largely excludes localized, community-driven, and oral health traditions, especially those practiced by nomadic or tribal women (Lang & Bartram 2012; Reddy 2019). Biomedical systems tend to extract "useful" compounds from herbs while disregarding the contextual, cultural, and spiritual significance of healing practices (Shiva 2007). This extractive logic undermines the very foundation of TEK and turns it into a commercial commodity. Feminist critiques call for dialogical models of health knowledge, where indigenous women are not passive subjects but

co-creators of policy and practice (Narayan 1989; Harding 2004). Participatory frameworks like community-based participatory research (CBPR) and bio-cultural community protocols are needed to ensure ethical collaboration and recognition (Baviskar 2003).

A transformative approach to nomadic health must be mobile, inclusive, and participatory. Mobile health units adapted to pastoral movement patterns, trained community health workers from within the tribes, and legal recognition of traditional healers are key policy steps (NCDNT 2017). Feminist-informed health systems must document and support women's knowledge of herbs, healing, and reproduction through oral history projects and ethnobotanical mapping (Shiva & Jalees 2003). It is also essential to create intercultural dialogue spaces where biomedical and indigenous systems can co-exist with mutual respect and non-hierarchical exchange (Kothari et al. 2019). Without addressing gendered exclusions and ecological displacements, any health policy for nomadic tribes remains incomplete. The invisibilization of nomadic knowledge systems and women's contributions to healthcare reflects deeper issues of epistemic hierarchy, patriarchal neglect, and colonial hangovers (Fricker 2007; Bhukya 2014). Moving forward requires more than service delivery—it calls for reimagining health itself as a pluralistic, ecological, and gender-just practice. A feminist lens not only brings attention to who is excluded from knowledge production but also helps us understand the interconnectedness of care, nature, and justice in health frameworks. By honoring nomadic TEK and embedding women's voices at the center, India can craft a public health paradigm that is both inclusive and sustainable.

2. Methodology

This study employs a qualitative, critical ethnographic methodology rooted in feminist and decolonial frameworks to explore the intersection of health, wellness, and traditional ecological knowledge (TEK) among nomadic tribes in India. Fieldwork was conducted among the Raika (Rajasthan), Van Gujjars (Uttarakhand), and Sansis (Punjab-Haryana) using participant observation, in-depth interviews, and focus group discussions, supplemented by document analysis of NGO reports and government policies. The research design emphasized community participation, oral traditions, and gender-sensitive inquiry, particularly highlighting the role of women as healers and knowledge-bearers. Data were thematically analyzed using a constructivist grounded theory approach, ensuring that codes and patterns emerged from lived experiences rather than imposed frameworks. Ethical protocols such as Free, Prior, and Informed Consent (FPIC) and feedback loops were integral to the process, aligning with a commitment to epistemic justice and collaborative knowledge production.

3. Historical and Sociocultural Context

Understanding the historical and sociocultural trajectory of nomadic tribes in India requires a critical examination of how mobility, identity,

and statecraft have intersected over time. Nomadic tribes, including pastoralists, itinerant performers, artisanal groups, and forest-based communities, have long constituted an essential part of India's social and economic fabric. Their knowledge systems, seasonal movement patterns, and self-sufficient economies have historically contributed to the ecological balance and cultural diversity of the subcontinent. However, colonial classification, post-independence legal frameworks, and bureaucratic exclusion have systematically marginalized these communities, leading to socio-economic disenfranchisement and erasure of their traditional knowledge systems.

3.1. Colonial Classification and the Criminal Tribes Act

The colonial administration in India viewed mobile populations with suspicion and discomfort. As James C. Scott (1998) has argued, modern states, including colonial regimes, have historically struggled to administer and control mobile groups, as mobility challenges the logic of surveillance, taxation, and census-making. In British India, this discomfort crystallized into legal repression through the *Criminal Tribes Act (CTA) of 1871*, which categorized several communities as "hereditary criminals." This law did not criminalize acts but entire communities based on perceived nomadic and "unsettled" behavior, thus instituting a regime of surveillance, forced settlement, and moral judgment.

This act, applied disproportionately to groups such as the Banjara, Pardhi, Sansi, Nat, Kanjar, and Dombari, labeled over 200 communities as criminal by birth (Radhakrishna 2001). Colonial officials justified this by arguing that nomadic groups were "anti-social" and "genetically predisposed" to crime—a belief rooted in the racialized pseudoscience of the time (Nigam 1990). Children born in these communities were also marked as criminals, and entire settlements were subjected to daily roll calls, restricted movement, and forced resettlement. This deeply stigmatizing classification had long-term implications for the community's access to land, education, health services, and citizenship. While the British claimed that this was a measure of social reform, it was in fact a means to ensure greater administrative control and to break down indigenous economies that functioned outside the colonial tax structure (Dirks 2001). The CTA's legacy was not only legal but psychological—it established an enduring perception of nomadic tribes as inherently deviant and outside the pale of civilization.

3.2. Denotification and Post-Independence Neglect

After India gained independence, the Criminal Tribes Act was repealed in 1952, and communities were officially "denotified." However, this act of denotification did not entail social rehabilitation or restitution. Instead, many of these communities were brought under the *Habitual Offenders Act (1952)*, which permitted the police to monitor individuals based on prior records and "suspicious" behavior (Bhukya, 2014). While the label of criminal tribe was formally removed, its stigma persisted in policing, governance, and popular imagination. The Indian

state, while modernizing its institutions, retained many colonial ideas of social ordering—especially in relation to nomadic and forest-based groups (Gupta 2012).

Unlike Scheduled Tribes (STs), which received constitutional protection and affirmative action benefits, denotified and nomadic tribes (DNTs/NTs) were left out of most welfare policies and were not classified under any uniform category (Renke Commission 2008). This legal ambiguity meant that most DNTs and NTs were excluded from reservation benefits, access to institutional education, health services, or legal protection. They existed in a liminal state—neither fully included in welfare structures nor formally acknowledged as vulnerable populations (Baviskar 2003). The 2008 report of the National Commission for Denotified, Nomadic and Semi-Nomadic Tribes (commonly called the Renke Commission) noted that over 1,500 nomadic and semi-nomadic communities in India remained socially and economically backward. The Commission found that 89% of DNTs did not have access to housing, only 11% of children attended school, and less than 4% had any access to health services or identity documentation (Renke 2008). These figures underscore how historical injustice and bureaucratic neglect continue to shape the material conditions of these communities.

3.3. Cultural Misrecognition and Stereotyping

Apart from legal exclusion, nomadic tribes also suffer from cultural misrecognition. Their lifestyles, worldviews, and traditional practices are often caricatured in dominant narratives. Popular media frequently represent them as backward, exotic, or deviant, reducing diverse communities to tropes of snake-charmers, thieves, or wandering entertainers (Bhukya 2010). This representational violence compounds their legal marginalization and justifies their continued exclusion from the "mainstream." Pierre Bourdieu's concept of symbolic violence is particularly useful here: it refers to the imposition of systems of meaning and classification that legitimate the status quo and normalize the inferiority of marginalized groups (Bourdieu 1977). For nomadic tribes, symbolic violence is enacted when their knowledge systems are dismissed as superstition, their healing practices are ridiculed, or their mobility is treated as criminal intent. Feminist scholars have further noted how women in these communities are often doubly marginalized both by dominant society and by patriarchal structures within their own communities (Agarwal 1992; Virdi 2012).

3.4. Mobility and the Modern State: The Sedentarist Paradigm

The Indian state, like many modern nation-states, is inherently sedentarist in its design. Welfare services such as healthcare, rationing, pensions, and education are built around the assumption of fixed residence. This creates enormous challenges for nomadic and semi-nomadic populations, who often lack permanent addresses, voter IDs, or Aadhaar cards (Ghosh, 2018). Health interventions, especially immunization programs, maternal care, and disease tracking, rely heavily on documentation

and place-based monitoring. As a result, nomadic tribes are left out of disease registries, health subsidies, and preventive care frameworks (Banerjee & Raza 2020). This bureaucratic exclusion also interacts with ecological displacement. Many pastoral nomadic tribes have been evicted from forests and grazing lands in the name of conservation or industrial development. The Forest Rights Act (2006), though progressive in its framing, is rarely implemented in favor of pastoral groups due to the lack of "proof of residence" (Kothari et al. 2014). Women, who are the primary caregivers and medicinal knowledge holders in these communities, bear the brunt of this displacement as their access to herbs, water sources, and birthing spaces is disrupted (Shiva & Jalees 2003).

3.5. Loss of Intergenerational Knowledge

The historical and sociocultural marginalization of nomadic tribes has resulted in the erosion of intergenerational knowledge transmission. As mobility patterns are disrupted and young generations are pushed into informal urban labor markets, the oral knowledge systems related to ecology, health, and well-being are being lost (Berkes 1999). Women, who are often the custodians of this knowledge, find themselves silenced or displaced from the contexts where their expertise matters. Moreover, the lack of institutional recognition for these knowledge systems contributes to their disappearance. For instance, government health departments rarely consult traditional midwives or healers from nomadic communities when designing reproductive health policies. Nor is there any formal documentation of ethnobotanical knowledge among these communities, leading to loss through neglect and bio-piracy (Shiva 2007).

4. Traditional Ecological Knowledge (TEK) Systems

Traditional Ecological Knowledge (TEK) refers to the cumulative body of knowledge, practices, and beliefs developed by Indigenous and local communities through their interaction with the environment over generations. For India's nomadic tribes, TEK is not merely a body of knowledge about plants, animals, and healing practices—it is a living epistemology, an embedded worldview that integrates ecology, health, spirituality, and survival. Unlike codified textual traditions such as Ayurveda or Unani, the TEK of nomadic communities is oral, experiential, gendered, and deeply place-based (Berkes 1999; Sillitoe 2000). This section explores the richness of TEK among nomadic tribes, the specific role of women as healers and knowledge-holders, the challenges posed by ecological change and cultural erosion, and the necessity of integrating TEK into broader frameworks of public health and environmental policy.

4.1. TEK as an Adaptive, Localized Knowledge System

TEK evolves continuously in response to changes in the environment, weather patterns, migration routes, and livestock behaviors. Among nomadic pastoralists like the Van Gujjars of Uttarakhand, seasonal migration between summer and winter pastures is accompanied by a deep understanding of flora, fauna, water

sources, and disease cycles (Saberwal 1999). They are adept at identifying medicinal plants, interpreting animal behavior as ecological indicators, and managing herd health through non-invasive herbal remedies (Nair 2010). Similarly, the Gaddis of Himachal Pradesh, who herd sheep and goats in high-altitude terrains, possess intimate knowledge of alpine herbs, their properties, and their interactions with altitude-related illnesses such as hypoxia, joint pain, and fatigue (Kapoor 2015). These communities not only use plants like *kutki (Picrorhiza kurroa)* and *jangli lahsun (Allium wallichii)* for human health but also apply them to veterinary care, revealing the interconnectedness of human, animal, and ecological health systems—a principle now central to the One Health framework in global health discourse (Rock et al. 2009). What sets TEK apart from mainstream scientific knowledge is its situatedness—knowledge is context-specific, embedded in daily practice, and passed orally across generations. It is holistic, integrating not just biomedical concepts of illness but also spiritual, ritualistic, and emotional dimensions of health (Sundar 2000).

4.2. Gendered Knowledge: Women as Custodians of Healing

Within nomadic TEK systems, women play a central role as health practitioners, caregivers, and ecological stewards. They are often the first responders to illness in the household and community, especially in remote, forested areas where state health infrastructure is absent. Their knowledge of herbs, dietary practices, pregnancy care, bone-setting, fever management, and mental health rituals is critical to community well-being (Virdi 2012).In the Rabari community of Gujarat and Rajasthan, women use *neem*, *ashwagandha*, and *turmeric* preparations for childbirth and menstrual disorders. The Banjara women of Maharashtra employ *amaltas* (*Cassia fistula*) and *harad (Terminalia chebula)* in digestive health and wound care. Many of these remedies are empirically effective and comparable to pharmacological treatments, yet are rarely documented or recognized by biomedical practitioners (Lang & Bartram 2012). A feminist lens reveals how such knowledge is routinely devalued and invisibilized. Miranda Fricker's (2007) concept of *epistemic injustice* is instructive here—when the knowledge of certain groups (especially women from marginalized communities) is ignored or dismissed because of prejudice, it perpetuates structural ignorance in mainstream institutions. In the case of TEK, the gendered division of labor positions women as the primary custodians of health-related ecological knowledge, yet their voices are rarely included in formal discussions about health policy, environmental governance, or rural development (Shiva & Jalees 2003; Narayan 1989).

4.3. TEK in Veterinary and Pastoral Practices

Nomadic tribes also possess rich veterinary knowledge, which is integral to their livelihoods. The Raikas of Rajasthan, traditional camel herders, are globally recognized for their ethno-veterinary expertise. They use *babool (Acacia nilotica)* and *dhamasa (Fagonia cretica)* to treat camel infections and understand reproductive

cycles, parasite control, and grazing rotation better than most government veterinarians (Lokhit Pashu-Palak Sansthan 2008). Such community knowledge has often filled gaps left by state veterinary services. In the Himalayan belt, the transhumant communities like the Bhutias and Bhotias use climatic indicators (like cloud patterns, plant flowering) to plan breeding and migration, thereby reducing animal stress and mortality (Saberwal 1999; Berkes 1999). These ecological insights are being eroded, however, due to changing climate patterns, shrinking grazing corridors, and displacement due to hydro-projects and protected area demarcation (Kothari et al. 2014).

4.4. Spiritual and Cosmological Dimensions of Health

TEK is not only empirical; it is also deeply cosmological. Healing is often seen as restoring spiritual balance rather than simply eliminating pathogens. Shamans, spirit mediums, and ritual specialists play an important role in diagnosing and treating illnesses perceived to be caused by spiritual disruption, ancestral disapproval, or ecological imbalance (Sundar 2000). Among the Dombari and Pardhi communities, illnesses are often explained through narratives of spirit possession or ancestral anger, and healing rituals involve chants, purification, and offerings. Such practices are not irrational but represent alternative ontologies of health and personhood, which Western biomedicine fails to recognize (Langwick 2011). Ignoring these perspectives in favor of exclusively pharmacological models of treatment leads to low uptake of state-sponsored health services and deepens mistrust.

4.5. TEK under Threat Erosion, Co-option, and Bio-piracy

Despite its richness, TEK faces serious threats in the contemporary world. Environmental degradation, displacement, deforestation, and the loss of customary migration routes are eroding the ecological context in which TEK survives (Agrawal 1995). Nomadic tribes are being forcibly settled, often in ecologically hostile terrains or urban fringes, where traditional knowledge becomes irrelevant or inapplicable. Moreover, commercialization and co-option of TEK, especially by pharmaceutical companies, pose another danger. Ethnobotanical knowledge from communities is often patented without consent, a phenomenon known as bio-piracy (Shiva 2007). The neem and turmeric patent cases are only the tip of the iceberg—communities such as the Baigas and Gonds, who have extensive herbal knowledge, remain vulnerable to exploitation without legal protection (Kumar & Kapoor 2010).

There is also an internal erosion of TEK as younger generations migrate to urban areas in search of work. With no formal mechanisms of documentation or recognition, much of this oral knowledge risks extinction within a generation (Berkes 1999; Shiva & Jalees 2003).

4.6. The Need for Integration and Epistemic Respect

To preserve and promote TEK, it must be integrated with modern health and environmental governance, not by assimilation but through respectful dialogue and co-creation. Public health systems must include community

healers, especially women, in their planning and execution. Ethnobotanical surveys, oral history projects, and bio-cultural community protocols are essential for documentation and ethical use (Kothari et al. 2014; Baviskar 2003). However, integration must not result in epistemicide, the erasure of indigenous frameworks under the guise of modernization. As Vandana Shiva (2007) and Suman Sahai (2003) have argued, TEK systems are not primitive remnants, but adaptive, sustainable, and vital for confronting modern ecological and health crises.

5. Health and Wellness Practices among Nomadic Tribes in India

Health and wellness among India's nomadic tribes are shaped by their ecological knowledge, cultural beliefs, and socio-political marginalization. These communities have historically developed self-sufficient health systems rooted in traditional ecological knowledge (TEK), spirituality, and community-centered care. However, systemic neglect, cultural invisibilization, and displacement have threatened these practices, making it imperative to recognize their value and embed them within a broader, more inclusive framework of public health. This section outlines the key features of nomadic health practices, the gendered dynamics of care, and the impacts of structural exclusion.

5.1. Holistic and Preventive Health Paradigms

Health for nomadic tribes is conceived not merely as the absence of disease but as a dynamic balance between the body, mind, spirit, and environment. Illness is often interpreted through cosmological and ecological frameworks—as an outcome of spiritual imbalance, community disharmony, or violation of ecological norms (Langwick 2011). This worldview fosters preventive care that includes dietary regulation, seasonal detoxification, ritual purification, and communal wellness practices. Among the Van Gujjars of Uttarakhand, for instance, seasonal diets are aligned with forest cycles—light diets during migration and herbal infusions in the monsoon season for detoxification (Saberwal 1999). Similarly, Gaddis and Bhotias of the Himalayas engage in ritual fasting and use high-altitude plants like *kutki* and *chirayata* for liver and immunity support (Kapoor 2015). These practices are both curative and preventive, aiming to sustain equilibrium rather than treat symptoms alone. These holistic models resemble what anthropologists term as ethnomedicine—culturally specific systems of healing that combine biophysical understanding with ritual, narrative, and symbolism (Kleinman 1980). Such systems reflect deep ecological attunement and prioritize community resilience over individual treatment.

5.2. Ritual and Spiritual Healing

Spirituality is central to wellness in nomadic communities. Illness is often seen as the result of spiritual disruption caused by ancestral anger, taboo violations, or malevolent forces. Healing, therefore, involves not just herbal intervention but also ritual purification, chanting, drumming, or consultation with shamans (Sundar 2000). In communities like the Pardhis and Dombaris, illnesses such as epilepsy, chronic fevers, or

psychological distress are attributed to possession or spiritual pollution. Healers (often women or elderly men) perform diagnostic rituals, invoking deities or ancestral spirits to trace the source of the illness. Rituals are conducted in forest groves, with offerings and the use of sacred herbs like *tulsi, bela,* and *dhatura*. These are not superstitions but symbolic tools to reestablish moral and ecological order. Such practices underscore non-Western ontologies of health, where the body is not isolated from its environment but deeply embedded within social and spiritual relations (Langwick 2011; Nichter 2002). Failure to understand these logics results in mistrust of biomedical systems, which are perceived as alien, impersonal, and dismissive of lived experience.

5.3. Reproductive Health and Indigenous Midwifery

Women in nomadic tribes play a vital role in maternal and reproductive health, often serving as traditional birth attendants (dais) and herbal experts. Their knowledge includes pre- and post-natal care, contraception, menstruation rituals, and miscarriage management—passed orally through generations. For example, Banjara and Lambada women in Maharashtra use *ashoka bark*, *neem leaves*, and *aloe vera* for regulating menstruation, healing postpartum wounds, and treating urinary tract infections. The Rabari women of Gujarat use *castor oil* massages and *asafetida* pastes to relieve labor pain and regulate infant colic (Virdi 2012). These women also maintain ritual taboos and dietary norms for pregnant and menstruating women, based on a logic of ecological purity and bodily balance. However, these practices have been increasingly marginalized by public health campaigns that portray institutional childbirth as superior, ignoring the value of indigenous knowledge. This reinforces what Miranda Fricker (2007) calls epistemic injustice, wherein the knowers (tribal women) are disqualified from recognition in medical decision-making. Furthermore, maternal health indicators among nomadic tribes remain poor due to a lack of access to PHCs, mobile clinics, or state midwifery programs (Banerjee & Raza 2020).

5.4. Mental Health and Collective Coping Mechanisms

Mental wellness in nomadic tribes is approached through collective rituals, storytelling, music, and seasonal festivals. Psychological suffering is interpreted not as an individual disorder but as social or spiritual disharmony. Healing involves communal singing, shamanic trances, and nature immersion, which offer therapeutic release and social reintegration. For instance, the Nat and Kalbelia performers use dance and music as coping mechanisms for trauma, especially in the context of poverty, violence, and stigma (Bhukya 2010). Healing practices in such communities draw from embodied performance, emotional catharsis, and cultural continuity, rather than psychiatric diagnosis and pharmacological treatment. This contrasts with biomedical mental health models, which often fail to account for historical trauma

and cultural expression in marginalized groups (Kirmayer 2012). Such collective mechanisms reflect a communitarian approach to suffering, emphasizing interdependence, ancestral continuity, and ritual renewal, rather than individualized therapy.

5.5. Veterinary Practices and Human-Animal Health

Given their dependence on livestock, nomadic communities maintain elaborate ethno-veterinary practices that overlap with human health care. The Raikas of Rajasthan, for example, treat camel wounds using *babool resin, cow dung poultices*, and *salt compresses*. These remedies are applied with knowledge of animal pulse, diet, and seasonal behavior (Lokhit Pashu-Palak Sansthan 2008). Such practices not only ensure herd health but also prevent zoonotic transmission and promote ecosystemic balance—principles that align with the contemporary One Health approach, which links human, animal, and environmental well-being (Rock et al. 2009). Yet, veterinary services provided by the state often exclude such expertise, treating nomadic pastoralists as irrational or unhygienic. This disconnect reduces trust and uptake of services, reinforcing informal care systems that remain unsupported and undocumented (Agrawal & Gibson 1999).

6. Challenges to Health Integration

Despite possessing rich, context-specific systems of traditional health knowledge, nomadic tribes in India face severe barriers to having their health needs recognized, resourced, and respected by the state. The integration of their traditional health and wellness systems into mainstream policy frameworks remains limited and often tokenistic. These challenges stem from structural invisibility, epistemological bias, administrative rigidity, and cultural misrecognition. This section explores these barriers with an intersectional lens—acknowledging the historical, social, and gendered dimensions of exclusion—and argues for a shift toward more pluralistic, participatory health models.

6.1. Structural Invisibility in Public Health Infrastructure

One of the foremost challenges is the structural invisibility of nomadic communities within the Indian health system. Public health planning and delivery mechanisms are designed around sedentary populations, assuming fixed habitation, address-based service delivery, and permanent access to state institutions. Nomadic tribes, by their very mobility, are rendered untraceable and unserved by schemes dependent on geographical stability (Dasgupta 2006). The absence of permanent address proof disqualifies many from enrollment in welfare schemes like Ayushman Bharat, Janani Suraksha Yojana, or Integrated Child Development Services (ICDS). Health data collected through government surveys, such as NFHS or DLHS, rarely include nomadic groups, resulting in invisibilization at the policy level (Banerjee & Raza 2020). As the 2008 Renke Commission report noted, over 98% of denotified and nomadic tribes lacked access to formal healthcare (Renke 2008). This institutional blind

spot perpetuates a cyclical exclusion without data; there is no policy; without policy, there is no resource allocation; and without resources, communities remain outside the formal health net.

6.2. Epistemic Discrimination and Devaluation of Traditional Knowledge

The Indian health system predominantly follows a biomedical model, which often views traditional health knowledge (THK) as unscientific, unverified, or anecdotal. This has led to epistemic injustice (Fricker 2007), wherein the lived expertise of community healers, especially women, is ignored or devalued in institutional discourse. Nomadic tribes possess intricate knowledge of medicinal plants, birthing practices, disease prevention, and herbal veterinary care. Yet this knowledge is not integrated into public health curricula or training modules. The Ministry of AYUSH, which promotes Ayurveda and other codified systems, also rarely acknowledges the non-codified, oral traditions of healing practiced by nomadic communities (Shiva 2007). Feminist critiques highlight how this dismissal is gendered—women, who are primary health custodians in these tribes, are doubly excluded due to their gender and their epistemic location outside modern science (Agarwal 1992; Narayan 1989). Their reproductive knowledge, birthing rituals, and herbal treatments remain unrecognized, while government health campaigns promote sterilization, institutional childbirth, and contraceptive implants without cultural consent.

6.3. Legal and Bureaucratic Marginalization

Nomadic tribes often fall into administrative grey zones. Unlike Scheduled Tribes (STs), many denotified and nomadic tribes (DNTs/NTs) are not uniformly recognized across states, and they often lack scheduled status, caste certificates, or even Aadhaar cards, which are essential for accessing health services (Bhukya 2014). The Habitual Offenders Act (1952), which replaced the colonial Criminal Tribes Act, continues to subject many of these communities to police surveillance and harassment, further deterring them from approaching public institutions, including hospitals (Radhakrishna 2001). Moreover, government health workers, who are often unfamiliar with tribal cultures, tend to view nomadic patients with suspicion or condescension. Studies show that discriminatory behavior by healthcare providers, including name-calling, denial of treatment, and shaming, prevents tribal women from accessing maternal and child health services (Dasgupta 2006; Virdi 2012). The lack of mobile health units, multilingual staff, or culturally competent outreach further alienates nomadic populations, especially in regions where seasonal migration coincides with vaccination drives or institutional childbirth campaigns.

6.4. Disruption of Ecological and Cultural Contexts

A significant portion of nomadic health and wellness systems is land-based and ecological—relying on forest herbs, sacred groves, migratory

routes, and biodiversity. However, modern development projects such as dams, highways, protected areas, and mining have disrupted these ecological lifeworlds, eroding both the availability of medicinal resources and the cultural spaces where healing takes place (Kothari et al. 2014). For example, Van Gujjars have been evicted from forest areas under conservation laws, losing access to grazing paths, rivers, and medicinal plants essential for their healing practices (Saberwal 1999). Baiga and Gond tribes in Madhya Pradesh face restricted access to forests despite their rights under the Forest Rights Act (2006) being legally guaranteed. This spatial dislocation leads to cultural disintegration, breaking the intergenerational transmission of health knowledge. Younger generations, drawn into wage labor or resettlement colonies, often lose access to both ecological resources and traditional healers, resulting in increased reliance on unregulated urban medicine or unqualified practitioners.

6.5. Gendered Vulnerabilities in Health Access

Women in nomadic tribes face unique health risks, exacerbated by their roles as caregivers, healers, and laborers. Constant mobility affects continuity of antenatal care, access to safe delivery, and treatment of gynecological conditions. The absence of menstrual hygiene facilities, lack of nutrition, and exposure to sexual violence during migration routes add layers of vulnerability (Virdi 2012; Ghosh, 2018). Moreover, government health campaigns often fail to engage with the cultural logic of tribal birthing practices, pushing instead for institutional births without building trust or providing culturally safe spaces. Traditional midwives are not supported, trained, or integrated into PHC systems, leading to a loss of agency for tribal women over their reproductive health. Feminist public health scholars emphasize the need to move from interventionist models (where the state "delivers" health) to empowerment-based models, which recognize tribal women as knowledge-holders, not mere beneficiaries (Sen & Nussbaum 2000).

6.6. Need for documentation

In today's rapidly modernizing world, traditional knowledge is increasingly being forgotten, often overshadowed by technological advancement and globalized culture. This loss is compounded by a critical lack of documentation, as much of this wisdom spanning medicine, agriculture, craftsmanship, and oral history has been passed down verbally through generations. Without written or recorded records, these invaluable practices and insights risk disappearing entirely with the elders who hold them. The neglect of traditional knowledge not only weakens our cultural identity but also causes us to overlook sustainable, time-tested solutions that could address modern challenges. Therefore, there is an urgent need for official documentation through government and institutional efforts. Proper recording, classification, and preservation of traditional knowledge in archives, research databases, and educational curricula will ensure it is safeguarded for future generations and recognized as a valuable resource alongside modern science and technology.

6.7. Knowledge Appropriation and Bio-Piracy

Another challenge is the unethical appropriation of tribal health knowledge by pharmaceutical industries and research institutions. Without proper bio-cultural consent, ethnobotanical knowledge is extracted, patented, and commercialized while the original communities receive neither credit nor compensation (Shiva 2007). For instance, plants like *ashwagandha, guggul,* and *neem*, long used by tribal healers, have been patented abroad with minimal consultation. This amounts to bio-piracy, where the intellectual property of nomadic communities is expropriated under the guise of scientific advancement (Kumar & Kapoor 2010). Despite the Biological Diversity Act (2002) and the Nagoya Protocol, enforcement remains weak, and tribal customary rights over health knowledge are not systematically protected or documented. The integration of nomadic tribes' health and wellness systems into India's public health framework faces deep-rooted structural, epistemic, and cultural barriers. These challenges are not merely technical but fundamentally political, shaped by histories of colonial criminalization, caste-based exclusion, ecological displacement, and gendered silencing. To move toward equitable health integration, India must shift from a biomedical, top-down model to a pluralistic, participatory, and culturally respectful framework. This includes recognizing traditional healers, documenting oral knowledge ethically, ensuring mobile and inclusive health services, and empowering tribal women as frontline health workers. Without such transformative efforts, the promise of health justice for nomadic communities will remain unfulfilled.

Opportunities for Integration of Nomadic Health and Wellness Systems

While nomadic tribes in India face profound exclusion from formal health systems, there also exist numerous opportunities for inclusive integration that respect, preserve, and revitalize their traditional health and ecological knowledge. Recognizing these opportunities requires moving beyond assimilationist models and toward intercultural and rights-based frameworks, which enable co-production of knowledge, institutional reform, and community empowerment. Integration should not aim to replace traditional knowledge with modern systems, but rather to recognize their equal epistemic value, allowing pluralism in how health and wellness are understood, practiced, and institutionalized (Nichter 2002; Fricker 2007).

Conclusion

The health and wellness practices of nomadic tribes in India represent rich, context-specific systems of ecological intelligence, social solidarity, and cultural resilience. These communities, historically marginalized and politically invisible, possess healing traditions rooted in centuries of lived experience with nature, community care, and spiritual balance. From herbal medicine and midwifery to seasonal detoxification and collective mental health rituals, their practices challenge dominant biomedical models by offering holistic, preventive, and community-centered paradigms of wellness.

However, these systems have long been excluded from mainstream health discourse, primarily due to colonial criminalization, epistemic bias, and structural neglect. The legacy of laws like the Criminal Tribes Act and the ongoing misapplication of the Habitual Offenders Act continues to cast suspicion on nomadic communities, marginalizing their voices in public institutions—including health care. Despite constitutional guarantees and democratic expansion, these groups remain largely unrecognized in national surveys, state records, and medical infrastructures. Their mobility is often mistaken for rootlessness, and their cultural knowledge is mischaracterized as superstition or backwardness. This paper has shown that integration is not only a matter of policy necessity, but also of ethical and epistemological justice. The health systems of nomadic tribes do not merely need "inclusion" into dominant structures; they demand co-existence, mutual respect, and intercultural dialogue. Integration must be pursued through models that recognize pluralism in medical epistemologies, and which empower nomadic communities not as passive recipients of aid, but as active agents and knowledge-holders in their own right.

One of the central arguments of this research is that health is inseparable from ecology, gender, and cultural identity. Women play a pivotal role in preserving and transmitting health knowledge across generations, acting as midwives, herbalists, and emotional caregivers. Ignoring their contributions amounts to a double marginalization—both as tribals and as women. Feminist perspectives are therefore crucial in formulating health policy that not only reaches these women but respects their autonomy, expertise, and leadership. Moreover, the ecological embeddedness of health practices visible in the use of specific forest herbs, seasonal rituals, and animal-human interactions calls for a One Health approach that integrates environmental, animal, and human well-being in a synergistic manner.

The challenges to integration are formidable. These include legal invisibility, lack of health records, cultural alienation in public hospitals, bureaucratic rigidity, and displacement due to urbanization and conservation laws. Yet, as highlighted, these very challenges offer insights into opportunities for radical rethinking. By investing in mobile health units, multilingual and intercultural training of healthcare workers, certification of traditional healers, and legal protection for traditional ecological knowledge, the Indian health system can begin to undo the harms of historical neglect. Equally important is the role of participatory governance. Integration will only be meaningful if nomadic communities are allowed to define the terms of their health priorities and to co-create the tools of delivery and accountability. This requires not only decentralization but also restitution of dignity, voice, and cultural continuity. State-led efforts must therefore shift from a "service delivery" paradigm to a "partnership and empowerment" model, where knowledge flows both ways, and policies are shaped with, not just for, nomadic groups.

Furthermore, policy convergence is essential. Health cannot be siloed from education, land rights, forest access, or social welfare. Ministries must work together to build integrated, community-owned solutions. Without secure land and identity, no health policy—no matter how well-funded—can reach or sustain impact. The Forest Rights Act, the Biological Diversity Act, and the National Health Mission must intersect to ensure that ecological sovereignty is recognized as a prerequisite for cultural health sovereignty. In conclusion, the integration of nomadic tribes' health and wellness systems is a transformative opportunity. It not only enriches India's public health landscape with ecological and cultural depth but also moves us closer to a truly inclusive and decolonized model of development. Recognizing these communities as healers, knowledge keepers, and ecological stewards challenges the epistemic violence of past policies and paves the way for a more just and pluralistic future.True health equity lies not just in reaching the marginalized but in learning from them, honoring their knowledge, and co-creating futures rooted in justice, dignity, and mutual care.

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