The riddle of the crane

Multispecies coexistence and the case of Dhanauri (Uttar Pradesh, India)

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Metaphor of unconditional love, devotion, empathy and compassion, the giant Indian crane, or Sarus Crane, is a topos of Indian literature: its song is capable of evoking the plots of an aesthetic, lyrical and spiritual search. Sung in epic and myth, this animal today stands as a symbol of Environmental Humanities in India, despite its increasingly threatened conservation status. This article focuses on the case of Dhanauri Wetlands, illustrating the complexity of multispecies coexistence between endangered animals and a human society in full transformation. The Dhanauri oasis, not yet officially recognized as a protected 'Ramsar' site, stands as a bastion of environmentalism in a paradigmatic struggle for resilience against the rampant urbanization and industrialization of the Indian *doab*.

Keywords: Sarus Crane, Krauñca, Antigone antigone, Dhanauri, Wetlands, Environmental Humanities, Multispecies Studies.

1. Brief introduction to Environmental Humanities and Multispecies Studies in India[1]

Environmental Humanities is a multifaceted, relatively new and rapidly evolving field of study, integrating theories and approaches from various disciplines: anthropology, art, communications, cultural studies, philosophy and ecology, to history, and literature. The so-called Anthropocene concerns of climate change, urban sustainability, biodiversity conservation, species decline, energy policy, environmental activism, and indigenous justice are the major issues emerging in this remarkably integrative and wide-ranging discipline. In this context the scholar becomes a creative, almost an artist, more frequently an activist, engaged in the wide gap of intersectional dynamics between man and nature in all its declinations. It should be noted, however, that the Environmental

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Humanities, as a distinct field, emerged largely in the context of Anglo-Saxon academic institutions, in the States, in Australia, certainly largely in Europe; furthermore, although converging in the historical-geographical and anthropological fields, the discipline took its first steps in English literature or at most in the perspective of comparative literatures. It is interesting to note that in the recent ecocritical debate the component of Eastern cultures, such as voices from the Arab world or South Asia, seems to have played a minority role, even though environmental humanities are asserting themselves everywhere today with renewed vigor. The reasons may be disparate, such as the language barrier or some regional specificities. However, in India, in the palpable and growing momentum towards transdisciplinary approaches to ecology and sustainability, an attempt emerges to find an indigenous root of the discipline, as opposed to a Western debate perceived as increasingly self-referential (Biswas and Ryan 2025).

It is undeniable that there are intellectuals and writers of fiction and non-fiction from South Asia who today enjoy international fame, such as Amitav Ghosh, or Ramachandra Guha etc. However, they are authors who generally address an English-speaking audience. It is also interesting to note how many Indian academies today tend to emphasize a 'traditional' perspective in the Environmental Humanities, which therefore draws from classical literature, from Sanskrit or Hindi, from the history of Indian religions and philosophies, from the peculiarity of an aboriginal cultural kaleidoscope (Beggiora 2021: 199-218). Even the corpus of *itihāsa*, or Indian epics, can be elected as a global paradigm of ecocritical investigation for its effective importance on world literature in terms of content, complexity and doctrinal richness. The most frequented themes are, not by chance, the doctrinal concepts that have always structured the backbone of Indian metaphysics, such as the theme of *ahiṃsā*, vegetarianism, compassion, empathy and consubstantiality between beings. The so-called relationships between 'humans, non-humans and other-than-humans' are crucial in the ecocritical debate, but it is probably possible to affirm that the dimension of interaction and coexistence between human and non-human *animals* prevails in this context. A fluid relationship of identity exchange, a dynamic of mating, shapeshifting, is metaphorically translated into the epic: in the non-time of myth, in paradisiacal places, anthropomorphic speaking Sanskrit beasts are the key characters in events involving deities, who in turn appear conceiving offspring with human and animal partners (Fisher 2018: 56). Even before the emergence of Environmental Humanities, the sacredness of the animal world was accepted where a transmigration or multispecies rebirth was contemplated. Animals were venerated as hypostases of the deities or as a metaphor in *kāvya* poetry and in the Purāṇas of a state of universal suffering dictated by their transitory condition in the impermanence of manifestation. But it is precisely the theme of suffering, doctrinally underlying the exercise of compassion in Indian

disciplines, that is most debated today. The horse Kaṇṭhaka cries at the departure of the Buddha, the elephants in the Jātaka are moved, the animals of the Pañchatantra suffer (Pandey 2016: 220-227; Kumaravelu and Christopher 2023: 100-106). But the most interesting element is the concept according to which men and animals substantially share the same passions, the same emotions. In this sense, Indian myth is a kaleidoscope of examples, but for the purposes of our study, the emblematic episode that opens the epic of the Rāmāyaṇa is useful to us. The first three chapters of Vālmīki's work form the prologue to this epic and tell the story of how the poet came to write it. It is said that when he went down to the Tamasā river to bathe, while he was walking, a short distance away in the forest he saw two birds completely absorbed in a love game. But even as he watched, a Niṣāda [forest-dweller] hunter, filled with malice and intent on mischief, struck down the male of the pair. Seeing him struck down and writhing on the ground, his body covered with blood, his mate uttered a piteous cry. And the pious seer... was filled with pity... [and] uttered these words: "Since, Niṣāda, you killed one of this pair of *krauñcas*, distracted at the height of passion, you shall not live for very long" (Goldman 2021: 54).

Grief-stricken at that vision, Vālmīki pronounced a curse that will be the subject of study for millennia, as well as the fact that the death of a bird would seem to be the main reason for the birth of India's first epic. On the one hand, the sage later realized that his grief or compassion (*śoka*) had spontaneously created the meter (*śloka*). But on the other hand, the demonstration of how animals share human emotions is the basis of a sense of personal empathy with wild animals—this sort of consecutio will be virtuous in the Brahmanic teaching to come.

2. The crane mystery in the Rāmāyaṇa

The episode we have just narrated appears in the *sarga* 2 of the Bālakāṇḍa of Vālmīki's work. However, it is a topos in Indian tradition being mentioned in Aśvaghoṣa's Buddhacarita, Kālidāsa's Raghuvaṃśa and in the works of Kashmiri poets, but the latter seem to have understood that it was the female bird that was killed by the Niṣāda and that it was the male bird that lamented his loss. The issue is not indifferent since some scholars, such as Charlotte Vaudeville (1918-2006), connect the episode to the bardic oral tradition. The topos suggests the pre-existence of popular songs or ballads on the theme of love in separation, which here perhaps takes on an archetypal function in Indian literature. Here a female songbird of the *krauñca* type, symbolizing a wife, cries out all her pain at the separation from her partner and the pathos thus expressed, reiterated, refined through the very song of bards and poets rises to lyrical expression. Besides pointing to folk poetry as the main source of inspiration for the Rāmāyaṇa, the prologue to the poem suggests that Indian rhapsodes perceived an analogy between the female *krauñca* bird and the heroine of Vālmīki's poem, Sītā, a faithful wife tormented by the pain of

separation (Vaudeville 1963: 327-335). In short, we could say that the couple of birds is a clear metaphor for the divine couple of Rāma and Sītā, who throughout the history of Indian literature have expressed different metaphors of complementary and opposing principles, such as masculine and feminine, essence and power, Puruṣa and Prakṛti. In aesthetic terms, the primary feeling (*rasa*) is that of grief or compassion (*karuṇa*) due to the separation of the lovers which becomes the dominant theme and teaching of the epic.

At this point it will be clear how establishing which bird corresponds to the Sanskrit *krauñca* has become a sort of search for the holy grail of Indian literature. The exegetical question on the recensions of the epic is too complex to be treated here in summary. In this volume literary details are analyzed and explored in the article by Cinzia Pieruccini. In summary we can say that Sanskritists have spilled a river of ink on the question and although this is not yet definitively concluded, it has been resolved that the bird in question is the giant "Sarus" crane (*Antigone antigone;* Linnaeus, 1758). First suggested by K.N. Dave (1884-1983) in his book on birds in Sanskrit literature (1985: 314), this idea of the *krauñca* as Sarus crane was later substantially developed by Julia Leslie (1948-2004). To arrive at the same conclusion, she focuses on ornithological data and an important verse from the Southern Recension of the Rāmāyaṇa (Leslie 1998: 455-487). Her example is then followed by Niels Hammer who places emphasis on the ancient veneration for Sarus[2] cranes, as well as on the intimate and detailed knowledge of the species and their habitats that shepherds and communities of hunters and gatherers had inevitably acquired day by day, from ancient times to the composition of epic poems (Hammer 2009: 187-211; 2015: 81-99).

Whatever the reasons, now hardly debatable, for the choice of the *Antigone* crane as the emblem of a spiritual and literary research of the ancient poets, what is important is that the animal has become an archetypal symbol. Moreover, in addition to the undisputed religious and mythical value of the epic, today in the Environmental Humanities the Rāmāyaṇa acquires new value and new meanings in an ecocritical perspective. To give an example, the dissertation of the heroes' deeds is intertwined with the discussion of a sacred geography that has engaged scholars (Sinha 1999) in an effort to effectively localize the historical-geographical locations of the mythical places, evocatively structuring a sort of real map of the Subcontinent. But what is interesting is that this geography is alive: even before being rich in animals, there is a description of about two hundred names of plants, which, although they have not yet been effectively all identified, have been considered by some commentators worthy of being

[2] This term instead derives from the Sanskrit *saras* referring to the lake (in different meanings depending on the context), therefore it indicates a marsh, lake or river animal.

considered as a very first botanical catalogue (Sikarwar 2024: 187-199). In fact, from the island of Sri Lanka to the Himalayas, along the sacred rivers, a universe of lilies, lotuses, lianas, well-known and mysterious herbs, aquatic plants, shrubs, edible and inedible fruits comes to life. This abundance develops in different types of ecologically identifiable biosystems such as the dry or humid tropical deciduous forest, to which are added landscapes described as heavenly, such as evergreen jungles and Himalayan alpine reliefs: here the forest crossed by Rāma in his wandering is clearly a metaphor for a journey of spiritual transcendence (Roy 2005: 9-29). Indeed, it is interesting to note that the archetypal Indian forest reflects those states of mind that we were inclined to attribute mainly to humans, but that we then extended to the entirety of *non-human* animals. These are calm (*śānta*), sweet (*madhura*), angry (*raudra*) or fearful (*vībhatsa*) depending on whether it is an idyllic, pleasant place or rather harsh and wild, inhabited by different entities such as saints, ascetics, wild animals or even demons.

The complex set of these agencies - of which man is only one element and not even that central - and their moods, from an anthropological perspective, is subsumed in the empathic song of pain and compassion of the Sarus crane. It is important to note here that the animal chosen by Vālmīki is a wild animal, in this case theoretically a prey, since it is hunted by the Niṣāda. So strictly speaking it is a so-called *mṛga*, that is, not so much in the etymological sense of deer or gazelle, but rather sharing the same nature of "wild" beast. The detail is important because the concept, now hackneyed in anthropology (Lévi-Strauss 1962; Descola 2005) of the antithetical principles of the tamed and the wild (or domesticated/not domesticated) also recurs predominantly in ancient Hindu cosmologies. The village (*grāma*) and the wild nature (*araṇya*) were for traditional Indian thought two examples of those complementary and juxtaposed principles that I mentioned earlier, and which constitute the common thread of the epic and of a certain good part of Indian metaphysics. Nonetheless, in a broadly understood doctrinal perspective, there is not only opposition but also a certain correspondence between the wild and the domesticated, some elements of the former falling into the latter and vice versa. The village, the city, the sacred place (see the Sanskrit *kṣetra* 'field'), when its sacredness exhausts, recursively returns to draw it from the depths of the forest. The images of the gods, the sacredness of the relics, the updating of doctrinal questions, seem in some way to reside in the ancestral nature of the woods surrounding the human dimension.

Thus the mythical flurry of the episodes and deeds of the heroes, in the various recensions and regional versions that the epic has had in the history of Indian literature, presents itself each time as a complex mechanism of aesthetic and soteriological gears of which the key is the wild and ancestral sacredness of the song of the Sarus crane. Standing almost two meters tall in an upright position and with a wingspan of approximately two and a half metres, this majestic and regal wild bird, which has

populated the Indian wetlands since ancient times, rises up to a symbol of Environmental Humanities in India. Without taking anything away from the undeniable paradigmatic sacredness and semiotic power of the cow, the tiger, the elephant, and many other symbolic animals in India, the *Antigone* crane had become the quintessence of the search for a perfect, salvific lyric according to traditional aesthetic canons. However today, precisely in the debate on Environmental Humanities, this animal, due to its characteristics, embodies the very ancient root of an indigenous concept of man-nature consubstantiality, of an eco-cosmological empathy, implying notions of environmental sustainability and above all of a complex inter-/infra-species relationship and dialogue (Kumar and Kanaujia 2017: 465-470).

3. An ethological approach

Like all large birds, the Sarus crane appears awkward on takeoff, flapping its wings to gain speed and lift off the ground. But it is when it perceives and intercepts the currents that it hovers majestically over the Indian wetlands. The spectacle is of rare beauty and seems like an authentic miracle of nature. During flight, in fact, this type of crane uses to keep its long neck straight (unlike the heron, which bends it backwards) while stretching its black-tipped wings well. Similarly, the long pink legs are in line with the body and neck, offering the bird a very distinctive balanced profile. When I arrived for the first time at the Dhanauri Wetlands in Greater Noida, a few kilometers from Delhi, accompanied by colleagues from Bennett University, I almost had the impression of taking a journey back in time. Seemingly motionless in the dawn air with their powerful build, yet suspended in the wind thanks to their wide wingspan, the gigantic cranes seemed to defy the laws of physics, almost like pterosaurs in a prehistoric landscape. The *Antigone antigone* is in fact the tallest and most imposing crane species in the world, characterized by light gray plumage, long legs and a redhead, devoid of feathers. Its majestic stature and particular behavior have made it the object of study in various regions of the world. And it is precisely in India that the species is present in a more significant way. The distribution of the Sarus crane includes the Indian subcontinent, Southeast Asia and some regions of Australia. Sources such as the WWF and the International Union for Conservation of Nature (IUCN) estimate (as the calculation of the distribution in the wild is still problematic today) a total population ranging from 19,000 to 21,800 individuals, of which 13,000/15,000 would be mature individuals (IUCN 2024-2; WWF India, accessed Jan. 2025). Specific estimates are also available on a macro-regional level: India, Nepal and Pakistan: 8,000/10,000 cranes; Cambodia, Laos and Vietnam: 800/1,000 cranes; Myanmar: 500/800 cranes; and less than 10,000 breeding adults in Australia. This species is currently classified as Vulnerable (VU) as its numbers are progressively decreasing. On these assumptions and amounting to about 10,000

individuals, the population of Sarus cranes in India is nevertheless of crucial importance, both for the numerical data itself, and for the paradigmatic vulnerability that the species is facing due to environmental and anthropic factors. The heart of northern India, indeed in full economic, demographic, urbanistic boom, is certainly a non-negligible observatory (Rahmani 2019).

Figure 1. Sarus cranes duet (source: Wikimedia Commons).

For the purposes of our study, perhaps the most relevant biological and behavioral aspect of the Sarus crane is that it is a monogamous species, forming stable pairs for life. This is a relatively rare behavior among birds. Furthermore, Sarus crane pairs are known to perform elaborate dances, which represent both a ritual behavior and a form of communication between the members of the pair. These dances, which include leaping, wing extensions, and synchronized steps, are a form of social bonding and courtship. Sarus cranes are also known for their ability to emit loud cries that can be heard over long distances, another means of communication between members of the same population. These cries have a territorial function, marking the boundary of an area of competence of the pair or group (Verma 2018: 123-126). And it is incredibly interesting to observe how every characteristic observable from a zoological-ornithological perspective can be perfectly expressed in what is punctually and poignantly

described in Indian classical epics and poetry. For bards and poets of ancient India, the taxonomic, ecological and ethological notions relating to this bird seem to be an implicit acquisition, evidently the fruit of long observations, as well as a prerequisite for any subsequent creative speculation in the lyrical or philosophical field.

In terms of habitat and specific distribution, although part of a genus of migratory birds, Sarus cranes do not necessarily migrate over long distances. In India, some populations are year-round residents, while others migrate seasonally between agricultural plains and marshy areas. During the breeding season, which usually occurs between April and August, they choose to nest in humid environments, such as lakes, marshes and swamps, where dense vegetation provides shelter and protection from predators. The nest, usually built by the pair, is a relatively simple structure that is placed in isolated areas near water (Sundar and Choudhury 2003: 41). Sarus Cranes, like most other cranes, normally lay one or two eggs per clutch. In some cases, it can lay up to three eggs. The chicks are nidifugous and become self-sufficient after about 70-75 days.

The Gangetic plain and the regions of northern India, especially Punjab, Haryana, Uttar Pradesh and Rajasthan, record the highest concentration of the *Antigone* crane, as they provide ideal habitat for the species, such as wet and marshy environments, but also agricultural lands. Indeed in India, Sarus cranes are frequently observed in cultivated lands, where by feeding on a variety of crop seeds, they can supplement the diet of insects, invertebrates and aquatic plants, also taking advantage of large open spaces. However, habitat loss due to agricultural expansion and urbanization is a growing threat to the Sarus Crane and many other bird species. As we will see below, wetlands, essential for nesting and feeding, are rapidly declining, significantly reducing the resources available to the species. Agricultural lands in particular are a source of conflict, since cranes, venturing sometimes into these areas to forage, can be perceived by farmers as damaging crops (Kale *et al.* 2012: 49-62; Austin *et al.* 2018).

The *Antigone antigone* is classified as 'Vulnerable' by the IUCN (International Union for Conservation of Nature) and its global population is estimated to be declining. In India, although the species is protected by law, pressures from habitat loss, climate change and conflict with agriculture are threatening its survival. The increasing use of pesticides (Arya *et al.* 2024: 29-31) in agricultural practices and unsustainable water management have made it even more difficult for cranes to remain in many traditional ranges. Hunting, although less widespread than in other regions, is another threat along with the collection of eggs and chicks that the species has had to face in the past (WWF Nepal 2016). In response to these threats, various conservation programs have been initiated to protect such avifaunal populations in India. These programs focus on preserving nesting sites, educating local

communities about wildlife conservation, and promoting more sustainable agricultural practices. The creation of protected areas for cranes and monitoring their numbers through research projects are undoubtedly key elements in the conservation strategy. But it is essentially a general environmental awareness, encompassing the commitment to water management, of which wetlands are an integral part, that today seems to be the keystone for the protection not only of cranes but also of many other species (Prakash and Verma 2016: 1-5).

In fact—and this seems to me to be a central point of the matter—the Sarus crane, together with other types of aquatic birds, plays a crucial ecological role in the ecosystems in which it lives. In addition to being important for the control of some species of insects and weed plants, it contributes to the dispersal of seeds and the maintenance of biodiversity. Its presence in agricultural areas can therefore also have beneficial effects, as it helps to control insect populations that could irreparably damage crops. Furthermore, as predators of small invertebrates and aquatic plants, Sarus cranes can contribute to the balance of aquatic ecosystems, maintaining the good health of their habitats. However, the conservation of this species is complicated by the fact that the areas where these cranes reside are often in contexts of high anthropogenic pressure, such as intensive agriculture, fishing activities and urbanization. In contrast, land management approaches have been developed in some northern regions of the Subcontinent, seeking to balance human and wildlife needs, aiming to reduce conflicts between crane protection and agricultural practices (Borad *et al.* 2001: 89-96). I think it is fair to establish the Sarus Crane as an iconic species of Indian wetlands, playing a crucial ecological role in these environments (it is also the national animal of the U.P.). Given the wide range of beneficial impacts of its presence, continued and collaborative efforts between researchers, conservationists and local communities are crucial to counteract existential threats and ensure the future of this majestic crane. In conclusion, what seems striking to me is that the two parallel perspectives of the environmental humanities and of a bio/zoological approach, more closely related to the hard sciences, as I have illustrated here in these last two paragraphs, can be perfectly superimposable, intersecting, as well as reaching similar conclusions. This correlation deserves for sure a more in-depth analysis.

4. Case Study in Dhanauri Wetlands

The Dhanauri Wetlands, located in the Indian state of Uttar Pradesh, serves as an essential habitat and refuge for a variety of Indian bird species, in particular this protected area plays a crucial role in the survival and reproduction of the Sarus crane, which is facing increasing ecological threats due to habitat loss and environmental degradation. To be precise, the 98-hectare area, now a birdwatching sanctuary (Ansari *et al.* 2018: 161-171), is in the Gautam Buddha Nagar district (coordinates: 28.3359,

77.6180) and is estimated to contain 217 species of birds including around 120 specimens of the *Antigone antigone*. At the same time, the set of factors and changes due to modernity and in particular to the expansion of nearby urban centers have triggered an intricate series of conflicts and paradoxes, today involving not only environmental associations and government directives, but also a complex web of agencies such as the rights and interests of local farmers, water management, the development of new infrastructures and areas for real estate capable of satisfying the demographic pressure of this area of India. All these driving forces gravitate vortically and dangerously around the emblematic figure of the *Antigone* crane, so much so as to blur the contours of its very importance both as a symbol and as an endangered animal.

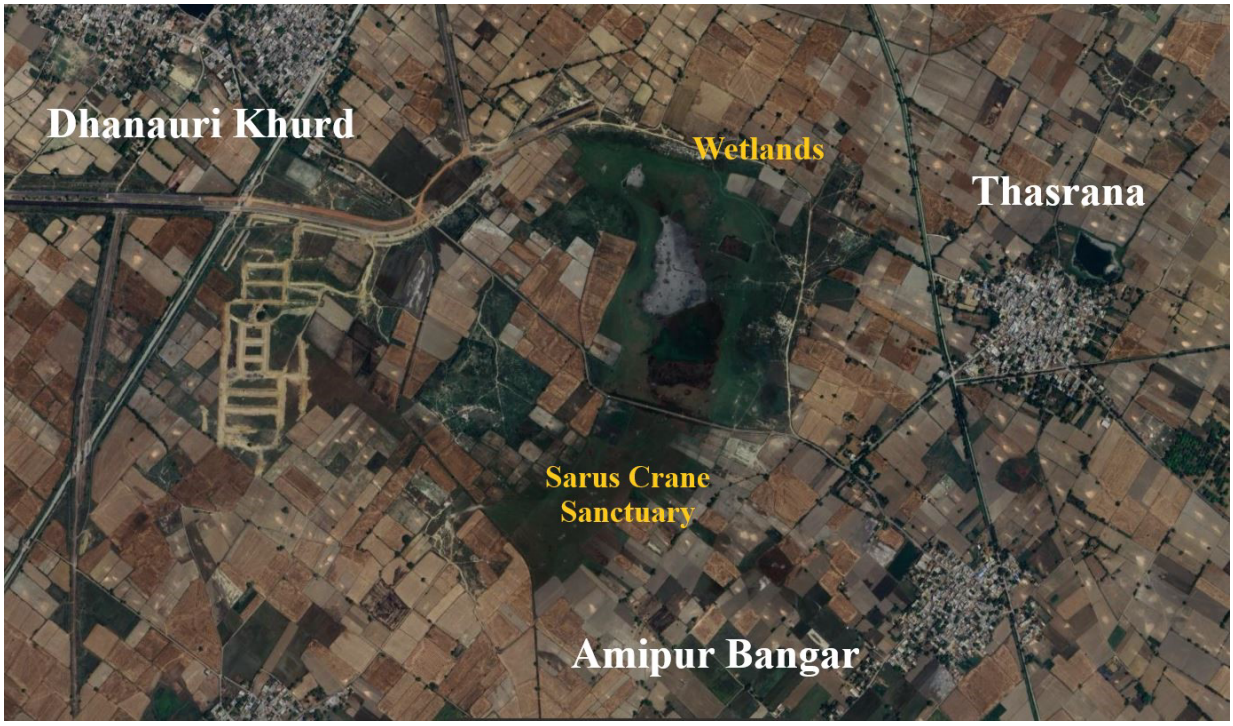

Figure 2. Dhanauri Wetlands satellite photo (source: Google Earth; modified).

Before going into the details of the ongoing controversies, I think it is necessary to mention that the Dhanauri wetland offers a unique ecosystem that combines both aquatic and terrestrial environments, making it an ideal place for several species of animals. The wide open spaces, wetlands and shallow water bodies of the wetland provide the necessary resources for feeding, nesting and breeding of cranes. As mentioned, they feed primarily in the grasslands and shallow ponds of the wetland, feeding on a variety of plant materials, small invertebrates and amphibians, and here the availability of these resources is critical to their survival and reproductive success. Sarus cranes are also known for their

peculiar social habits: pairs often return to the same breeding grounds year after year. In Dhanauri, cranes have established regular mating patterns that are closely linked to the seasonal cycles of the wetland, particularly the availability of water and food. During the monsoon season, flooded areas of the wetland provide an abundance of aquatic vegetation and prey, allowing cranes to thrive (Gulati and Rana 2021a: 37-42).

Interestingly, while the Sarus Crane has been classified as Vulnerable on the IUCN Red List due to increasing habitat loss, agricultural encroachment and climate change, the Dhanauri Wetland stands out as one of the last strongholds of this species. The wetland is integral to their survival, providing not only a safe haven for nesting and feeding, but also a buffer against the pressures of human development. The presence of Sarus cranes in this wetland is often seen as an indicator of the overall health of the ecosystem. The breeding success and population/distribution trends of these birds are essential data and indicators for conservationists monitoring wetland biodiversity. In other words, the interconnection between cranes and the territory—exemplified by the aforementioned interaction with seeds, insects and more—becomes a tool for well-being and monitoring of the general ecological balance, that is, of the multispecies relationships within the delicate ecosystem of Dhanauri (Gulati and Rana 2021b: 205-210).

Recognizing the importance of this natural area, safeguarding initiatives have been initiated to protect the Sarus crane and its habitat. These include habitat restoration projects, anti-poaching measures, and community-based conservation programs aimed at raising awareness and promoting coexistence between wildlife and human populations. Local conservation groups, in collaboration with government agencies, have worked to mitigate the impact of agriculture and promote wetland conservation. In particular, the establishment of buffer zones around critical breeding areas and the promotion of environmentally friendly farming techniques have shown promise in ensuring that the wetland remains a safe habitat for the crane (Bhatnagar *et al.* 2019). These efforts are crucial to maintaining the ecological integrity of the Dhanauri Wetland and providing a model for wetland conservation across the region. Perhaps the most notable development in recent years has been the application for the area to be listed as a Ramsar site. Also known as *The Convention on Wetlands*, it is an international environmental treaty signed on February 2, 1971 in Ramsar (Iran), under the auspices of UNESCO, which entered into force in 1975 upon reaching a quorum of participating countries. In short, the Convention aims to internationally protect wetlands through their identification or delimitation, the study of their characteristic aspects (in particular birdlife), and the implementation of programs that allow the conservation of habitats, including flora and fauna. At a global level, marshes, peat bogs, swamps, artificial (such as fishponds, rice paddies, reservoirs) or natural water basins, permanent or

transitory, with stagnant or flowing, fresh, salt or brackish water, are monitored, including marine expanses where the depth does not exceed six meters during low tide. This limit may be exceeded for islands, oases, mangroves, deltas of riparian zones, provided that they are included in wetlands of recognized importance for the breeding of aquatic bird species, in particular dependent on such habitats. To give an example, the first site to be registered in the Ramsar Convention in India was, way back in 1981, the famous brackish water lagoon of Chilika Lake (116,500ha): proposed by the government of Odisha as a UNESCO World Heritage site, it is today a natural sanctuary as well as an aquapelago rich in history and culture (Finlayson *et al.* 2020).

The Convention proposes a grid of nine main inclusion requirements that would be long-winded to analyze here, but suffice it to point out for now that Dhanauri has at least two of them, namely: the area serves as an aggregation site for over 20,000 waterbirds and various other species, and coincidentally in the case of the Sarus crane, it hosts over 1% of the biogeographic population of one species or subspecies of waterbird. Despite having the requirements to be included in the internationally recognized special protection areas and considering that the first surveys by environmentalists date back to 2014, Dhanauri seems to have sunk into a real swamp of legal quibbles and lethargic bureaucracy (Dixit 2021).

The National Green Tribunal (NGT), a statutory body in India dealing with the speedy disposal of cases related to the protection of the environment and other natural resources, after having ordered the Uttar Pradesh government to cleanse the area of water hyacinth (a invasive species in wetlands), has instituted an inquiry in 2024 in an attempt to understand why the state authorities have not yet actually submitted the notification of the wetland as a Ramsar site. The Divisional Forest Officer (DFO) of Gautam Buddha Nagar said that the area surrounding Dhanauri with its hundred hectares is extremely complex, since it mostly develops on private land. In addition to surveys of the actual size of the territory and remote sensing images,[3] the authorities had to engage with stakeholders, particularly landowners and local farmers (Ghanekar 2024). The difficulty of the consultations and obtaining the authorization to proceed would therefore be the main cause of the delays in this process, which would particularly involve the villages of Dhanauri Kalan, Thasrana and Amipur Bangar, surrounding the area in question and which I had the opportunity to visit, collecting several interviews.

[3] The surrounding countryside does indeed have its own complexity, but it is paradoxical to think that the area of wetlands is still quite small. The smallest Ramsar site in India is Renuka Lake (HP) with only 20ha, while the largest is the Sundarbans (WB) with 423,000ha, although 1/3 is in India, the rest in Bangladesh (RSIS 2005, 2019).

5. Voices from the Wetlands

It is interesting to note that the current debate on the formal creation of a protected natural area with special status must be framed in a previous context that is substantially anything but idyllic, and this can only add complexity to the current difficulties. It is no secret that in India the agricultural sector has always been mostly neglected and left behind in the national development plans. Since the years following independence, Prime Minister Nehru managed to uplift the nation, but mainly by implementing heavy industry and the steel sector. In the years following the rupee crisis of 1990-1991 and the opening of the domestic market to foreign direct investment, which in turn was a prelude to the economic boom, the leading sectors were the tertiary sector and services. The giant strides that India was able to make were, according to the farmers in particular, thanks to the sacrifices and mortification of the agricultural sector. Even when there were interventions in this area, in particular I am referring to the various historical declinations of the so-called Green revolution, the results were so poor and the controversies so broad that it would be reductive even to attempt to summarize them here (Siegel 2018). However, it is enough to move away a few dozen or hundreds of kilometers from Delhi to realize the level of backwardness of many rural villages: from the lack of infrastructure, to the work in the fields still carried out by hand or with the help of animals. Dhanauri is no exception with its herds of buffalo, rotational crops of rice and wheat, and collection of fodder.

Thus, the historical and frequent conflict between wetlands and anthropogenic zones, which I mentioned above, in which multispecies coexistence is problematic, finds in Dhanauri a perfect paradigm: however, to fully understand it, it is necessary to insert the case study into a broader socio-economic scenario. From what I have been able to gather from interviews with activists and farmers (who I will keep anonymous here for privacy reasons), despite recent positive interventions, coexistence between birds and humans has long been difficult. In short, birds are responsible for the devastation of crops and rice farmers in particular say that enormous damage is caused by the incessant trampling of the ground with their large legs, by the rummaging of their beaks especially after sowing. The ban on hunting them by any means, especially aimed at protected species such as cranes, is therefore a problem for those who have invested funds and energy in seeds, irrigation, crops. An elderly farmer from Dhanauri said that recently the Indian government proposed a certain amount of rupees as compensation to farmers or landowners on whose land the cranes had nested. This was supposed to be a way to protect the species and at the same time calm the discontent of the local workers. But at that time, estimates and fictitious sightings of nesting sites began to multiply beyond measure, so much so that it became necessary to catalogue the sites and mark them with a sort of flag or signal. The farmer said he was personally involved in the counting operation, but as soon as he

approached the nests with the eggs, the cranes became aggressive, not letting the intruder get closer. The fact that some specimens of Sarus crane can reach almost two meters in an erect posture, and therefore, although it is a normally harmless animal, it can become quite threatening, was described by the informant with a lively and amusing pantomime. On the other hand, some have noted that mostly other birds, especially peacocks, are damaging crops, not so much the cranes, which are proportionally less numerous. And in any case, in recent years, human behaviors equally damaging to the animals' habitat have been recorded: such as the use of agricultural pesticides, and the use of drainage pumps that absorb water from wetlands pouring it through irrigation onto agricultural land. The presence of water is fundamental especially as a result of climatic distortions that are altering the timing and distribution of monsoon rains in the area; in this latitude it is essential mostly to implement the double harvest of *rabi* and *kharif*, typical of subtropical countries. Some products, such as rice, can in fact give a double annual harvest in the monsoon area; therefore the constancy of an abundant water supply can double the farmers' earnings. To do this, motor pumps have been installed in several areas, which however the government has declared illegal and subject to sanctions.

The inclusion of Dhanauri in the sites catalogued in the Ramsar Convention and the related projects for the protection of the natural area could in fact act as a peacemaker in a situation of multispecies coexistence that today would seem to be anything but sustainable. But since the mapping of the protected area actually affects the agricultural properties of the villages, the State has offered to purchase the fields and agricultural lands around the villages, providing compensation to the owners. Despite this guarantee, the families of the settlements say they are worried about the future of their children, at least in the sense that the hard profession of the farmer was still passed down from generation to generation and had provided the means of subsistence to the local families. Lacking agricultural land, the new generations will have nothing to live on. I personally objected that in a future perspective of creating a natural park, the new generations of local citizens are expected to have the right of pre-emption to be employed in all management jobs of the project, such as the work of rangers or forest guards. One of the farmers' spokesmen reported that in fact the institutions had offered this opportunity to the local community, but he also said that this had not been welcomed with enthusiasm due to the low level of *sarkāri*, or state, wages. Alternatively, the right of pre-emption was mooted in the hiring of young people as local clerical workers in a Chinese telephone company that intended to establish a branch in the area.

The issue of the implementation of real estate around the wetlands actually seems to be the first real big threat to the process of creating the natural area. Plans in hand, the leaders of the Dhanauri communities showed a copy of the master plan of the Yamuna Expressway Industrial Development

Authority (YEIDA) which envisages the reduction of the Wetlands to just over fifty hectares for the natural park by 2031, divided into approximately 17 hectares of wetland and 39 hectares of green belt around it: substantially it is almost half compared to the original project of the area that can be included as sites cataloged in the Ramsar Convention. YEIDA has allocated the land for housing, and in some areas construction and urbanisation projects have already begun (Dev 2022). The YEIDA CEO said that equivalent land could be allocated to the natural reserve on the other side of the wetland where there is currently no construction underway; however there are rumors among the villages that the government intends to allow the development of a luxury real estate ring that will completely surround what remains of the wetland. So the deed of sale of some plots begins to reveal a different agenda for the future (Rajput 2023).

The second dark shadow hanging over the future of the nature reserve project is the construction, already started, of the so-called Jewar airport a short distance away. Known as Noida International Airport, once completed, it will be an alternative to Indira Gandhi International Airport in Delhi by relieving its high and rising traffic load, and is planned to be India's and Asia's largest airport. Faced with a project of such enormous scope, every element of risk—such as habitat degradation, the impossibility of nesting for cranes, the risk of bird strike accidents—increases the paradox of the general scenario (Mishra 2024). In fact, a condition imposed by the Indian Ministry of Environment while granting environmental clearance to the airport was the compilation of a bird and fauna conservation plan, in consultation with the Wildlife Institute of India. This request has been ignored by the Uttar Pradesh government, which has not even made any proposal to designate Dhanauri as a Ramsar site for the above-mentioned reasons, thus preventing the National Green Tribunal (NGT) from proceeding in this direction (Mahapatra *et al.* 2024: 96-104). Thus far the redness of the sunset in the wetlands ignites an idyllic landscape: as in the literary *braj* the countryside is alive of the people inhabiting it; the herds return slowly from the pasture, flocks of birds hover above a jagged body of water fading into the horizon. But on that same horizon, scorched by the sun, the first asphalt landing strip of the new airport looms black and interminable.

6. Conclusions

In a farming village near Amethi, also in Uttar Pradesh, but about six hundred kilometers from Dhanauri, the story of a farmer who found an injured Sarus crane on his way home caused a sensation in 2023. After caring for her, the two became good friends, so much so that even if left free, the crane wanted to stay with her human companion. When the news reached the newspapers, the Forest Department immediately confiscated the animal to reintroduce it into the wild. The case became

political, allowing the opposition spokesperson to criticize the Uttar Pradesh government for its lack of empathy in understanding the possible depths of human-animal relationships (Rehman 2023). The event is very interesting because, politics aside, it is paradigmatic of two opposing perspectives on environmentalism. On one side there are the advocates of *ahiṃsā*, as a universal feeling of compassion and empathy between all beings, including human and non-human animals, which I described in the introduction. There is no greater driving force than this love. Also expressed in Environmental Humanities, it is a transcendental principle that hinges on the backbone of Indian metaphysics. On the other hand, especially from the Hard Sciences, but not only (as in the integrated holistic perspective of the One Health model), there are those who accuse the nonviolent advocates of Gandhian compassion of being impractical, that is, of not taking into account the global scenario in which we live. Human and animal health are closely interconnected with each other, and with the common territory in which they live: it makes no sense to pet, feed, save an animal if the environment in which it is forced to survive is not in line with its well-being. Especially if man himself is a contributory cause of this impoverishment. Similarly, it seems pointless to befriend a crane if the concepts of environmental protection and species conservation are missing.

This is therefore why the Dhanauri Wetlands are crucial. There are many other animals at risk across India, to be precise more than 950 are listed by the IUCN Red List (updated to 2024) as critically endangered, endangered, or vulnerable (IUCN *cit*). Likewise, the Indian sites included in the Ramsar list are 89 in 2025 (UPSC 2025). I could therefore have discussed many different topics and scenarios here. However, Dhanauri combines a unique set of factors, making the case a symbol of environmental controversies in South Asia and around the world. In general terms, the Sarus crane was already a model of a lyrical development in classical literature; as expression of spiritual power, it subsumes within itself principles of cosmic order, expressed according to the aesthetic canons of the emotion transmitted by its song. The reinterpretation of these elements in an ecocritical way has made it an icon of Environmental Humanities in India. But then around, in contrast, there is Delhi. Not just any place, but the world's largest urban agglomeration (after Tokyo), comprising the satellite cities of Ghaziabad, Faridabad, Gurgaon, Noida, Greater Noida, YEIDA, with an estimated population of over 28 million. Although Delhi is an extraordinary place rich in history and culture, its ever-expanding urban area is now ranked first in the world (or among the first according to the latest updates) for air pollution (WHO 2025). This monster that is rapidly devouring the plain and the Indian *doab* metaphorically embodies all the worst concerns of the Anthropocene. Here, within it, the crane stronghold becomes a symbol of extraordinary strength placed within an exceptional observatory.

What is regrettable in conclusion is that, considering all the forces at play, the paradigmatic value of the Sarus crane does not seem to be taken into consideration as it deserves, suffocated by the demands of each of the parties. Even the environmentalist faction seems to be more attentive to the number of specimens, to what the bird actually is, rather than to the ethical and spiritual battle that this amazing beast represents. Furthermore, when I asked the farmers if they were not fond of cranes as sacred animals, sung in epics and literature, they seemed aware, but all in all detached, more than anything else worried about the concrete future of their children. Only a few elders said they had a clear idea that that animal was the inspiring incipit of the saga of the Rāmāyaṇa and yet not an incisive fact for contingent reality. Indeed, the urban and technological development of their villages was seen as something inevitable and ultimately right. That is, the abandonment of a hard, archaic and at times unfair lifestyle in favor of modernity is acceptable, to the extent that at least this time in history the peasants are not marginalized or excluded. So the set of many small stories of resilience, survival, multi-species coexistence between humans and non-human animals seem to be absorbed, crushed, annihilated by global development policies and large investments. On this front, there is no longer time or space for opposing perspectives on environmental issues: in the heart of Dhanauri there is a crane that can teach us the meaning of our existence and our role on the planet.

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