

THE IMPERCEPTIBLE STAKEHOLDERS

Including the natural world within the urban realm

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Abstract

Urban animals are an integral part of Indian society, both culturally and religiously. Yet the development models for our cities have always ignored these ever-present 'imperceptible stakeholders' and have prioritized economy over sustainability. This has resulted in global issues like climate change and the loss of ecological diversity.

As urban practitioners, we seldom plan and design for the 'imperceptible stakeholders' who are fundamental to the everyday life of our societies. It is critical for us to work with nature and to be more accommodating of it within our cities. Jaipur, the first planned city of India, by its design had included nature as a strong part of its urban realm. Higher rates of unplanned urbanization since the 1990s have led the city to sprawl manifolds. This new growth has created many conflicts between humans and nonhumans. But at the same time, many of the nonhumans are loved and even worshipped by the people.

This research analyses these strong cultural roots that tie humans with nature aiming to come up with a replicable urban design policy framework and guidelines that can help create sustainable and inclusive urban environments. The framework proposes the inclusion of urban forest corridor networks housing the urban animals which also creates an open space structure by linking various low-income group communities to their workplaces. Animal welfare centers are to become a part of the mandatory social infrastructure and the urban fringes to provide sanctuaries for stray urban animals. New cultural roots are generated by making the nonhuman life visible within the public realm. By understanding our interdependencies with the natural world, we can create cities where the imperceptible stakeholders of today can be the legal citizens of tomorrow.

Keywords

Nonhumans, urban forests, subaltern animism, socio-ecological systems, sustainable development goals

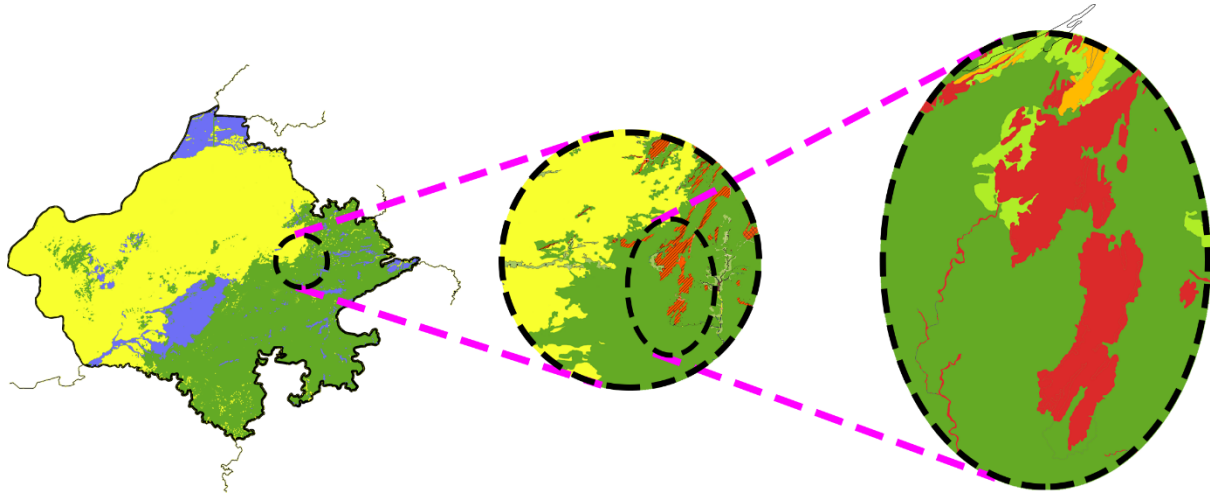


Figure 1: Geomorphology of Rajasthan showing various land types zooming into the Jaipur region. Data source- Bhuvan satellite imagery

Built form as a manifestation of the culture



Figure 2 :Chand Baoli, Abhaneri near Jaipur provided water to the village and was an important public space. Source-Google images, Jal Mahal of Jaipur in Mansagar lake. Source- Author

Conflicts and coexistence



Figure 3: Leopard being attacked after entering into the city fringe in search for a prey. Source- Google images, A lady feeding the local wild monkeys. Source- Google images

1. Natural and the human worlds

1.1. Introduction

The human world is developing at an unprecedented pace in the era of the Anthropocene. It is not only the physical world that is changing but also our metaphysical understanding of it. With such sheer forces of unidimensional development, it is natural for conflicts to arise between our past and the present. Indian cities are great examples of this case. One can witness these forces of culture colliding with the forces of urban development. Somewhere in peace, and somewhere in the chaos.

The culture and beliefs of any society are an outcome of various physical conditions in which it grew. Religion is also a manifestation of the geographical and natural conditions of a particular region where society has existed and evolved for centuries. Our traditions are an outcome of this culture and are a strong force in existence. Nonhumans are an integral part of Indian society and certain practices of Hinduism have even empowered them. This empowerment became evident when it inspired events like the famous Chipko movement. (Narayanan, 2017)

Satisfying the thirst or hunger of living beings is considered to be an essential deed and is widely celebrated in many parts of India. From our festivals to daily rituals, the idea of mutualism has always existed. In an ever-transforming and evolving society, it is critical to hold on to the values that help us sustain our existence. There lies abundant wisdom in the practices of sects like the Bishnoi community of Marwar, Rajasthan which can inspire action to deal with the climate and ecological crisis. Bishnoi people understand the pivotal role nature plays in the subsistence of life on this planet. This remarkable environmental practice on the part of the community is in line with contemporary global demand that urges people to respect the environment and all the life forms (Sinha, 2018). It is the values of the communities that define their culture and environment (built & open). Therefore, it is crucial to inform people by all means, about the importance of their ecological systems.

As Yamini Narayanan (2013) argues in her work that the climate crisis is linked with the spiritual crisis and our deeper spiritual and moral understanding of the world as a society could be the answer leading towards a sustainable world. Every living being deserves clean and accessible water, food, and shelter. The coexistence of the human and natural worlds is what many of the sustainable development goals (SDG) set up by the United Nations (UN) point us to achieve, for a better future of the planet.

1.2 The Imperceptible Stakeholders

Citizens have a claim and stake in the urban spaces. Good urban planning and design caters to their need and aspires to deliver the stakeholders with a respectable quality of life. While the human stake has been established, our development models have constantly ignored the ever-present nonhumans within our cities. Such development has only catered to a limited number of stakeholders and is always excluding a significant amount of life that dwells within the urban realm. Even though these stakeholders are an integral part of our everyday lives, they have remained imperceptible to our planning, development, and policy-making processes. These are what I call 'The Imperceptible Stakeholders'. While the bottom-up planning approaches are being adopted worldwide that suggest the identification and studying of all the stakeholder groups to come up with the mechanisms to plan and develop, the imperceptible stakeholders are not included. As a result of this practice, despite being Delhi's state bird, the house sparrow has become a rare species in the national capital (Gandhiok, 2018). Extensive paving in the city, loss of the fertile ground where the bird could find the worms they feed to their children, lack of safe nesting spaces has led to this condition. The human world is eliminating the essential natural environment through various urban developments (Sharma, 2020). How can we provide right to the space to these imperceptible stakeholders?

Different species, same feelings



Figure 4 Kids playing splash in a pool of water after a monsoon rain, Source- Author



Figure 5: A group of pigeons enjoying a watery hole on the road in the summer heat of Jaipur. Source- Author

1.3 Methods

This paper involves understanding the natural and human worlds through several lenses in a strategic manner to suggest highly practical solutions that can work with the vision of coexistence and mutualism. Firstly, it attempts to gain a larger perspective by looking at society, culture, religion, development, and sustainability to establish critical linkages between them. These linkages are further explored through a review of relevant theories, practices, research, media reports, and government policies to create a foundation for further research.

Secondly, based upon the larger theoretical narrative, a small case study of the city of Jaipur and its people grounds the research argument. Narratives coming out of this study illustrate the importance of nonhumans in the everyday life of the people as well as the conflicts that they have to deal with. This points out the fact that neither planning policies, nor the public space design have successfully dealt with these issues or even acknowledged the fact that nonhumans have a stake in the cities.

Thirdly, suggestions, guidelines, strategies are formulated based on the existing evidence and critical animal studies to strengthen the human-nonhuman relationship and to foster the culture of acceptance, tolerance, and respect for the natural world. This paper attempts to articulate a critical understanding between the environment, culture, religion, and development to suggest new ways of urban development which are inclusive, where all forms of life and their dependence on each other are respected and nurtured.

2. Theoretical understanding

A significant amount of research has happened which talks about larger environmental concerns like climate change, loss of biodiversity, and extinction of various nonhuman species. This work is primarily dealing with ideas of healing, greening, urban forestry, wilderness, etc., and is selective when it comes to dealing with the animals that constitute this nonhuman world. Much of this writing on sustainability and nature highlights the importance of biodiversity in its technical meaning rather than human-nonhuman relationships (Arcari, Probyn-Rapsey, & Singer, 2020).

Ethno-geographical studies on urban animals have raised the question of power and spatial dynamics and the way nonhumans negotiate this within the cities. Somewhere by adapting and coexisting with humans and somewhere by claiming ownership of the space (Barua & Sinha, 2017)

These rare but critical animal studies have boldly pointed out the phenomenon of anthropocentrism shaking hands with capitalism by commodification and unjust evaluation of nonhuman lives and their body parts (Narayanan, 2017; Arcari, Probyn-Rapsey, & Singer, 2020). Not just the living beings, but also the goods we consume do not necessarily consider their environmental costs. This flawed evaluation is one of the most critical reasons for the growing climate crisis (WWF, 2013). Ignorance of captive commodities and its role in climate change was well summarized by Arcari, Probyn-Rapsey, & Singer as:

“Urban-based research focuses on ameliorating the symptoms of biodiversity loss at a local level while off-staging and thereby depoliticizing larger-scale causes.”

Emissions from livestock, soil and nutrient management (agriculture), and deforestation are the main contributors of greenhouse gases globally. Almost 80% of the land used for agriculture is allocated for the production of meat and dairy products (Ritchie and Roser, 2019). The recent report from IPCC suggests that greenhouse gases emissions may be reduced through a shift towards a plant-based diet from it being primarily animal-based (IPCC, 2018). With an 82 million rise in population annually, the urban is going to exert significant pressures over the natural systems.



Figure 6: Bishnoi people protecting their forests against the king's men. Source- carivanderyacht.com/Wilder-Tree-Hugger, A Bishnoi woman breast-feeding an orphaned baby deer and her child. Source- <https://i2-prod.irishmirror.ie/incoming/article7870052.ece/ALTERN>



Figure 7: A concrete river bed converted into natural wetlands in Singapore. Source- Centre for Livable Cities, 2012

3. Rajasthan: Ecology-Culture-People

The desert state of Rajasthan heavily relies on the monsoons to collect rainwater that sustains life and economy throughout the year. The rains are formed through the orographic effect caused by the Aravalli hills. These arid and sandy landscapes sustain agricultural and livestock rearing practices. These lands bred superior cattle which was the foundation of its economy (Sinha, 2018). The natural resources were protected by the law. Rulers had imposed fines on their illegal uses like the felling of green trees or defacing the village pond etc. The social concern for the environment and nonhumans in medieval Rajasthan manifested itself in various forms. Apart from taxes, the teachings of sects like the Jains and Bishnois fostered this sensitive care for the natural world. Harmony with the environment, such as the prohibition on cutting green trees and animal slaughter was highly encouraged (Maheshwari, 1970; Kumar, 2005).

The Britishers marked the Aravalli's as "*Gair Mumkin Pahar*", unfit for cultivation. This term is still valid in the land records (Kaur, 2018). Since then the forests have started to disappear and this 'unfit' land has been urbanized at places. As a result, the entire ecosystem has suffered and many species of flora and fauna have vanished over time. The post-independence growth brought the industries into the state. Rajasthan has become a global supplier of the stone and minerals that the Aravalli's provide. Extensive mining practices and unplanned urbanization has resulted in razing off of the hills in several regions while removing the already rare forest cover. Cities have been at the forefront of this exploitation through their heavy and ever-growing demands. With modern ways to extract the necessary resources and capitalization of these resources, the motherland has been a victim of excessive mining, groundwater extraction, deforestation, and heavy urbanization (Sharma, 2020).

Now, the Aravalli is the oldest and the most degraded mountain range in India (Kaur, 2018). Out of the 4.84% of total forest cover, only 0.02% is dense forest. The scrublands and open forests allow for cattle grazing which also defines the major use of these lands by the people (Forest Survey of India, 2019). Our Urban systems have been constantly ignoring the ever-present wildlife on the fringes as well as within the city. There is a strong need to develop a harmonic relationship that respects their territories and provides quality habitat for them to live.

3.1 The role of societal values in the present-day urban life: A case of Jaipur

The understanding of ecological systems by the people creates a well-rooted culture which in turn shapes our built environment and the urban systems. Public spaces like Baoli are just one of the many ways to protect and celebrate the ecologically sensitive and important regions. These spaces strengthen the coexistence of humans with nature (Sharma, 2020).

A strong '*line*' was drawn in between the forests and the people through the monetization of land as capital. Separation of the forest land and the urban land by creating authorities that dealt with them separately removed the aspect of forests from the life of the people. Jaipur, the first planned city of India was built on the foothills of Aravalli's by respectfully harnessing the water, materials, and protection provided by the hills. A great example of architecture, planning, and urban design of that time.

In time, the city has witnessed drying up of its water sources, a major flood that happened in 1981, deforestation, mining of Aravalli's, desertification of its land in parts, and massive urbanization that has also encroached upon some parts of these foothills. The fringes have become the backyard of the city where the poor and the marginalized live. Therefore, it is vital to regenerate these lands, especially the urban fringe that is facing these critical issues through urban design and planning.

To better understand and summarize the everyday life of the people of Jaipur, let us go through a day in the life of regular citizens.

The Urban sprawl

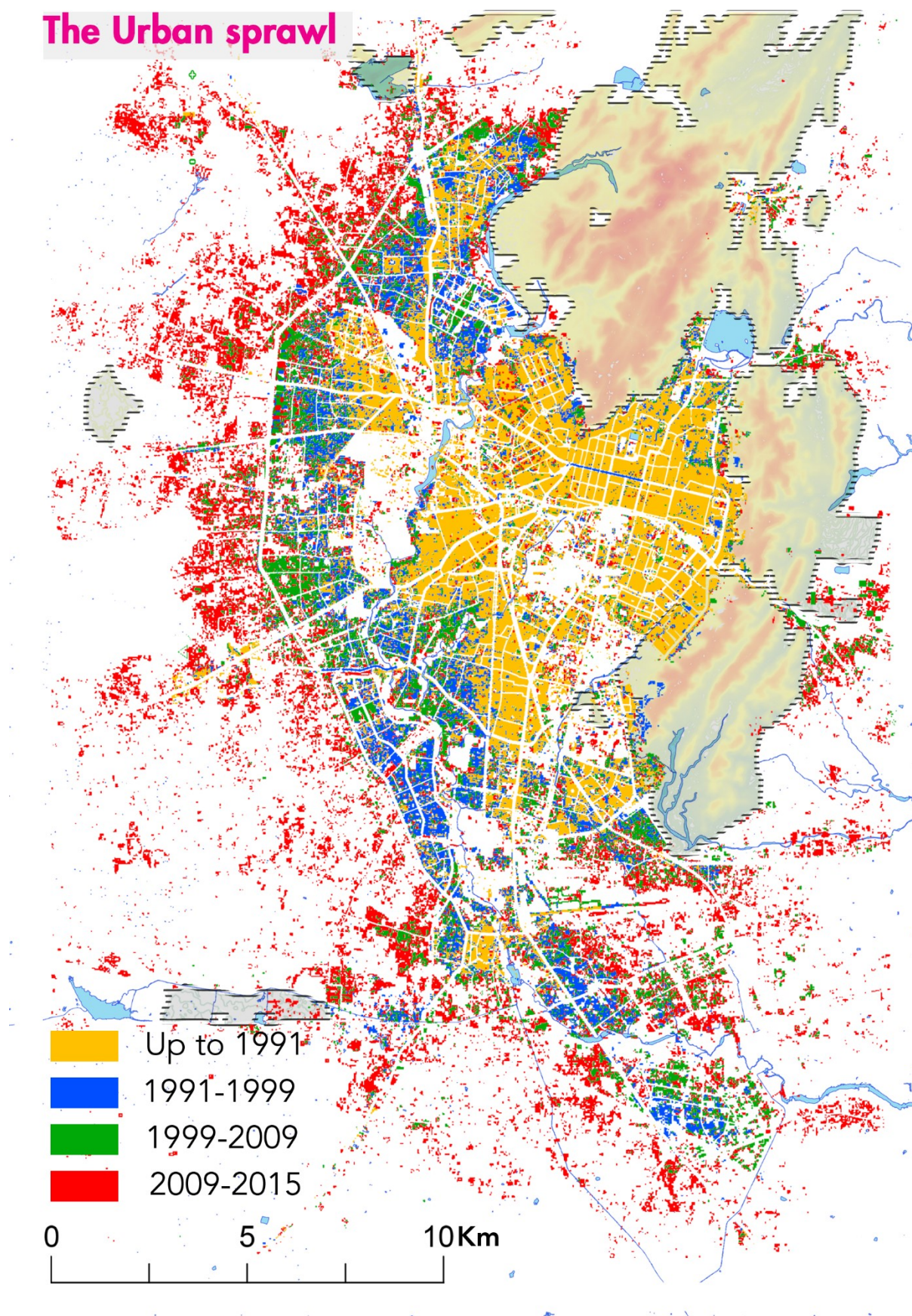


Figure 8 :The Urban Sprawl of Jaipur. Source- Author, Data- Bhuvan Rajasthan

3.2. A day in life

Urmila, a 53-year-old woman lives in a ground-floor flat of a gated housing society in Vidyadhar Nagar, Jaipur. She usually wakes up at 5 AM to find two female street dogs named 'Jako' and 'Oreo' at her doorstep excitedly wagging their tail on the porch. Urmila feeds them with a small bowl of milk or biscuits or a few leftover 'chapatis' from the dinner last night. She then goes for a morning walk to collect fresh flowers and a few 'Bael' leaves to perform her daily worship rituals at a temple nearby. The dogs accompany her as if they were her bodyguards. At the temple she pays her respects to several gods including Lord Shiva, wearing a snake around his neck, Lord Ganesha, who has a human body but an elephant head and rides on a mouse, Lord Hanuman, the monkey god, Lord Durga, who sits on a lion and finally, Lord Krishna playing the flute, surrounded by a group of cows. All these gods have their stories and these stories often include nonhumans including trees, plants, and even insects as the core characters in their lives. Urmila on her way back to the house sprinkles a small bowl of flour in a nearby park to feed the ants living there. She comes back and waters her small garden flourishing with nonhuman life.

The first meal of the day is prepared and the first 'chapati' (bread) is dedicated to the holy mother cow. On special occasions, nobody at her house is allowed to eat anything before feeding a cow, a dog, a crow, and a saint. This is the month of 'Shradh' when the ancestors are remembered.

There is a festival of 'Nirjala Gyaras' where Urmila doesn't drink or eat anything for the whole day and instead, she goes out and donates earthen pots full of water to a nearby 'Pyau', a place on the street where any sentient being is provided with drinking water at all times. One can find a large pot full of potable water always available on streets where the urban animals quench their thirst.

This is a day in the life of Urmila, an ordinary middle-class woman of the society. This is not just her story but of hundreds and thousands of people in India who have a strong relationship with nonhumans. Such a culture to an extent plays an important part for the people to accept the nonhumans and breed a healthy tolerance in their lives. The state of Rajasthan in India has shown a remarkable continuation of this culture. This is evident from the fact that 75% of the state eats a vegetarian diet against the national average of 25% (Ministry of Home Affairs, 2014).

While there are some good aspects of this culture, the present-day realities of everyday life also bring out some strong conflicts that are manmade only. Like the leopard sightings on the city fringes creating fear and panic. The city fringe establishes the boundary between the human and the natural worlds. This is where the collision of wildlife with urban life happens. Rampant encroachments of urban areas over the forest lands have significantly increased these leopard attacks who are territorial beings and come into the city searching for food. These conflicts are not just limited to the fringes, but also occur within the urban areas. Urban animals like cows take over the streets wherever they can get a constant supply of food. Such places are either designated spots where people donate and feed them or the waste disposal points in the neighborhoods. Macaque monkeys of Jaipur have their ways to negotiate with the urban spaces. They have got the public respect and attention to the point that there are cases of overfeeding that lead to obesity and higher cholesterol levels (Barua & Sinha, 2017). But the nationwide lockdown during the covid-19 pandemic showcased a different reality. Urban animals becoming hostile because of the lack of food that was abundant to them at the feeding spots and temples. Special feeding passes were distributed to the people who were willing to distribute food to these starving animals. It became evident that because of the human interventions, many of these animals have become critically dependent on these urban systems of feeding. This calls for taking relevant steps in urban development and policy-making to ensure that in case these human systems fail, the urban animals don't starve to their death. A good solution to this is to monitor the feeding areas to provide as much as needed and to distribute the surplus to the nearby animal welfare centers (Sharma, 2020).



Figure 9: Men graze the cattle and the women collect the firewood from the forests. Source- Author



Figure 10: Cows searching for food in the burning industrial waste. Source- Author



Figure 11: The medians of Vidyadhar Nagar have become the feeding points for birds and cows. Source- Author

4. Subaltern Animism: A fresh perspective to plan and design cities

Referring to the subaltern studies done for the human world, Narayanan coins the term, 'Subaltern Animism', formulation of new multispecies-inclusive planning theories recognizing the personhood or the agency of nonhumans and the ways they occupy and claim space. The way forests were our home and are to the many nonhuman species, the urban environment is supposed to play a similar role for the urbanites. It should have a providing nature, robust spaces, and a place for all beings to exist together. A forest has no walls, it connects, not segregates. That goes with the very essence of public space. Therefore, forests, physically or in spirit must become an integral part of our public spaces (Sharma, 2020). After critically understanding the nature and role of the human-nonhuman interaction in the vision of a sustainable world, various strategies and policies are drawn.

INTENT	STRATEGIES, POLICIES
Protect the Forests	Phase wise afforestation by native and multicultural species. Reclamation of the Forest Land Promoting cattle grazing to improve the quality of the Soil for healthy forests to develop.
Respect the Forest Edge	Enhancing the public access to the fringe Clear demarcation of protected areas, urban areas, ecological systems Removal of all encroachment from the edges Creating public spaces and NMT movement corridors along the fringe
Strengthen the Natural Systems	Protection of natural drainage channels and nonhuman spaces Making these systems visible and open by integrating them with public realm Creating public awareness about the critical natural systems, non-human species and our role to protect them Creating urban forests through Miyawaki method on all leftover and unused spaces
Reduce the Carbon Footprint	Harnessing and recharging rain water at local and regional level Research on Industrial waste and its economy to be prioritized Pushing the built environment to adopt sustainable strategies for any kind of development. Treatment of the major drains carrying industrial discharge before it goes into the river Incentives to adopt clean energy and waste management methods.
Strengthen the local culture towards forests	Supporting the cultural associations with forests through informative urban spaces and institutions Public facilities for Forest and Animal welfare shall be given the status of mandatory social infrastructure
Providing quality Live-Work-Engage spaces	Creating a heterogeneous mix of work spaces Provide Affordable Rental Housing to the workers Forest edge to become a happening yet a calm public space Not lawns but a Jungle approach in designing public parks and recreational spaces Nonhuman-Human interactions spaces to be developed with the forests
Guiding the transformation of the industries/ workplaces	Guiding the future development towards green and white industries Protecting and enhancing the nature of the area as a job provider to all Supporting local/traditional and natural industries by creating special markets and incentivized production for the same

A way to give back to the nonhumans



Figure 12: A conceptual imagination of the proposed forest corridor, human-nonhuman interaction space.
Source- Author

The forests are brought into the public realm and specially supports the low-income group by providing food and water security at a local level independent of the larger urban system. The dead, unsafe, polluted fringe where the marginal communities live shall become a city level front that makes sure through design, policies and guidelines that the fringe largely remains open for the public. A new system of learning in the public realm has been introduced by creating a living and open museum of indigenous biodiversity as a part of the public spine. Such spine also connects urban farming, commerce, sports, housing and social infrastructure, all in one public hub.

Urban design can play an important role to reduce the carbon footprint of a city while creating a home for nonhuman species. Through sensitive land use distribution (Sanz, et al., 2017) of functions by keeping ecology as the base (McHarg, 1971), we can create cities that respect the natural world. By critically distributing the functions that are well linked with the suitable mobility corridors, we can reduce the need to move and consume fewer resources to do so. With suitable urban design guidelines in place, a city can become environmentally sensitive that consume responsibly in its production and reproduction. Another major step is to involve the local communities. The indigenous communities have been living with and protecting the forests for centuries, with a vast repository of lived and traditional knowledge about forest ecosystems. They can play a critical role in protecting the nonhumans as well as to educate the public about these mutual relationships.

For fostering kindness and respect towards nonhumans, it is important to adopt a more sensitive approach to design policies. Instead of policies like the beef ban (Narayanan, 2019), one needs to work on developing personal and moral relationships with nonhumans. The real change cannot happen from the top-down approaches, but by fueling the culture of kindness and equity. Policies should recognize the nonhumans as legal stakeholders and valuable members of society. Parallely, spaces like forest corridors (Afforestation, 2019) can help with the human-nonhuman interaction and happenstance.

5. Conclusion

Social linkages supersede the legal definitions and limitations. It is evident through this research that our legal systems have fallen behind to acknowledge our complex and critical social structure. It is important to understand the everyday life of the people to plan and design spaces. It is urgent to take action in this matter to save the good aspects of this culture of interspecies faith and kindness. The most important change is to make the nonhuman life visible within the urban realm. To provide a sense of belonging and empowering the nonhumans by providing them with the spaces that they need, not what we think is enough for them.

Through critical animal studies done at the locality level, we can come up with nonhuman stakeholder groups. This group, through the already existing body of knowledge of intra/ interspecies relationships within and with the environment, can be understood in terms of their spatial needs. These spatial needs can then be analysed concerning the locality and the human aspects to establish the order of tolerance, human acceptance, etc to come up with spatial solutions. This is a fairly new concept to work with and requires detailed understanding through a multidisciplinary collaboration of experts, professionals, local communities, and the government.

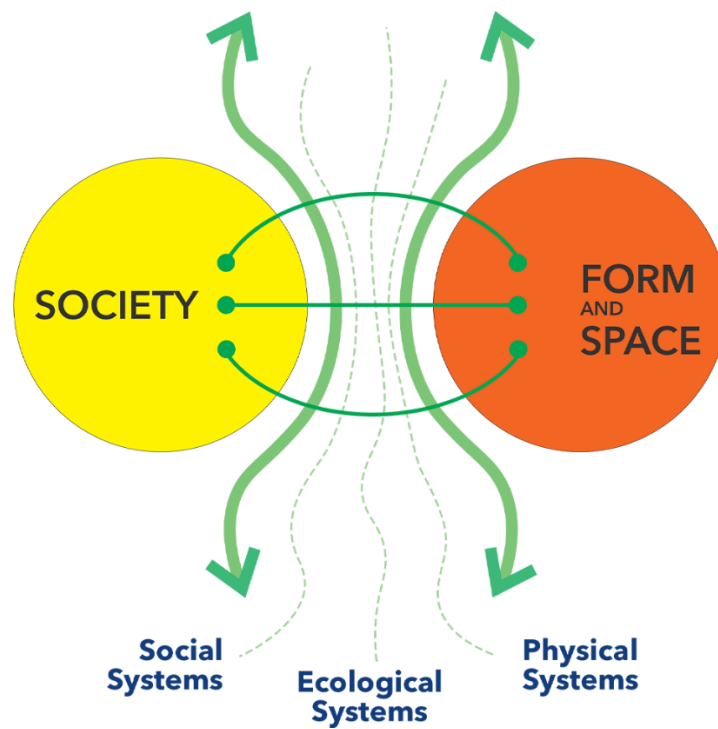


Figure 13: The systems bind the society with the physical realm. It is the systems that maintains the harmony in between them. Source- Author

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