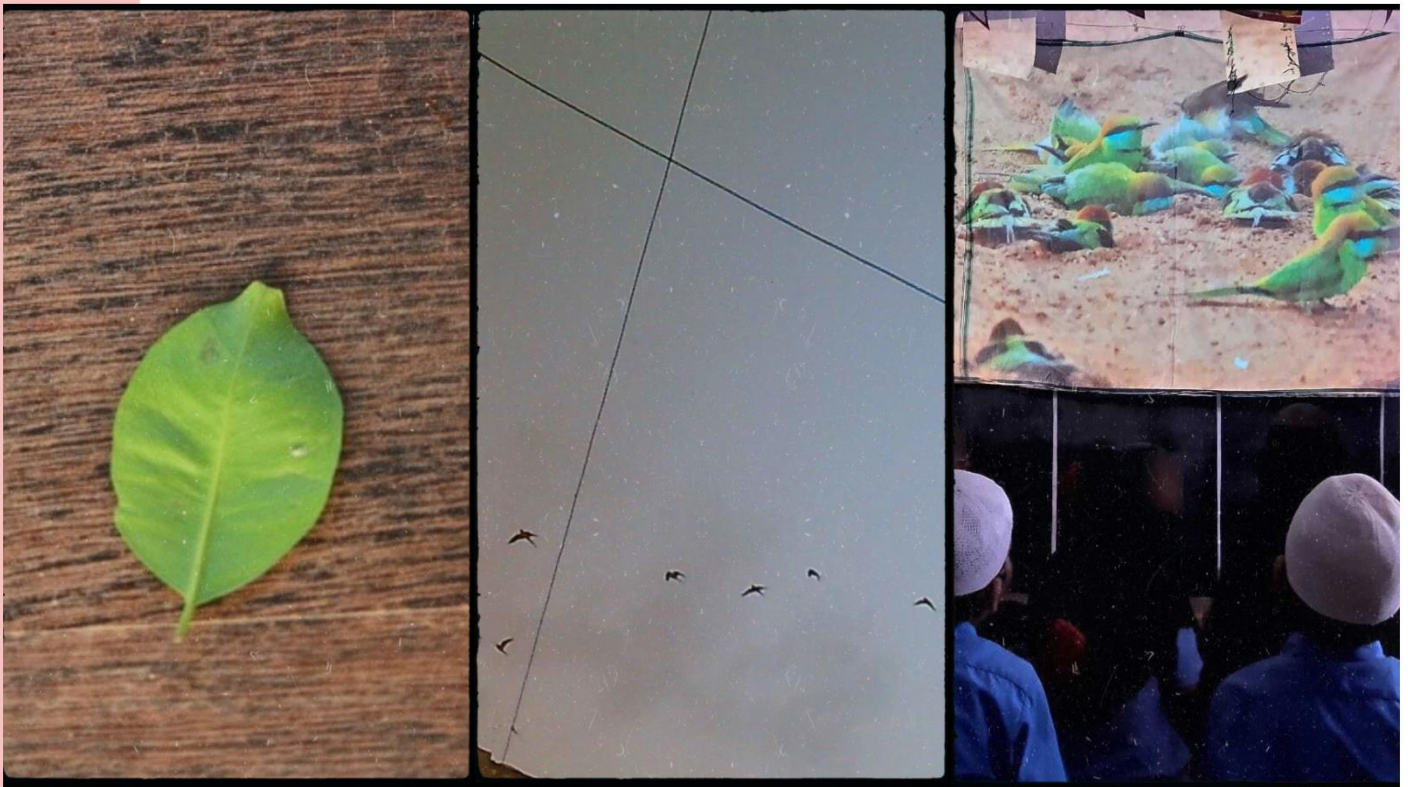


SEPTEMBER 2023 | PROJECT REPORT

# child-nature-ooru:

exploring children's relationships with  
nature in Bengaluru, India



# **Child-Nature-Ooru: Exploring children's relationships with nature in Bengaluru, India**

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This research report is based on the findings from the research project on children, nature and the city; a study that was first conceptualized by Vena Kapoor, Dr. Suhel Quader and the team at Nature Classrooms, housed within the Education and Public Engagement Programme at Nature Conservation Foundation, and in collaboration with Dr. Kaustubh Rau from Azim Premji University, Bengaluru. This work has been possible through grants and fellowships from Wipro Foundation, Azim Premji University and MoonFrog Labs. The idea for the study initially began with an interest to understand the nature literacy levels of middle-school children in Bengaluru and their attitudes towards nature. The principal investigators along with Dr. Ovee Thorat, Roshni Ravi and Labonie Roy laid out the groundwork — carrying out pilot surveys under challenging circumstances presented by the pandemic. Aashish Gokhale joined as research associate in December 2021 and built on this foundation, refining the research design and methodology, and shaping the research project to its current form. The feedback and comments of faculty at NCF and APU were also instrumental in helping us think through the project.

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## List of Abbreviations

ABC – Animal Birth Control

APU – Azim Premji University

CNI – Connection to Nature Index

GCYF – Geographies of Children, Youth and Families

INS – Inclusion of Self in Nature Index

NCI – Nature Connectedness Index

NC – Nature Classrooms

NCF – Nature Conservation Foundation

NEP – New Environmental Paradigm/New Ecological Paradigm

NSSC – New Social Studies of Childhood

PG – Paying Guest(s)

# child-nature-ooru

## Executive Summary

It is now common to refer to urban children as suffering from 'nature-deficit disorder'; with contemporary social movements attempting to bring urban children 'back to nature' (Shillington and Murnaghan, 2016). Studies have shown that access to nature and time spent in the outdoors can enhance children's levels of nature connection; which is positively associated with subjective well-being and prosocial behaviours (Chawla, 2020).

Children, Nature, the City, a collaborative research project between Azim Premji University and Nature Classrooms at Nature Conservation Foundation began with an interest to study the nature literacy levels of middle-school children in Bengaluru and their attitudes towards nature. But soon, we began to ask what it means for children to know nature and experience nature.

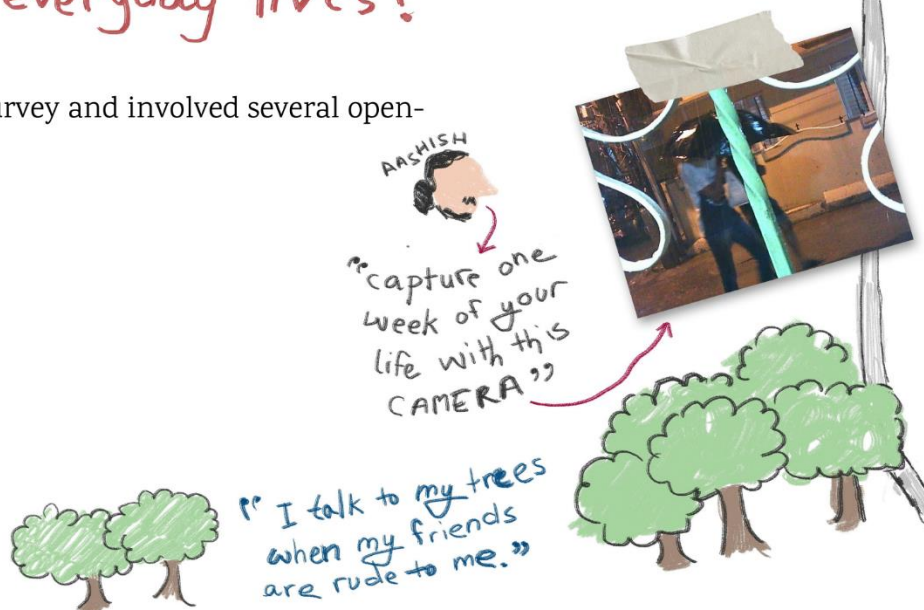
Instead of defining a singular 'nature', the study looked to foreground children's conceptualisations of the term as well as their experiences of the nonhuman world, and ask:

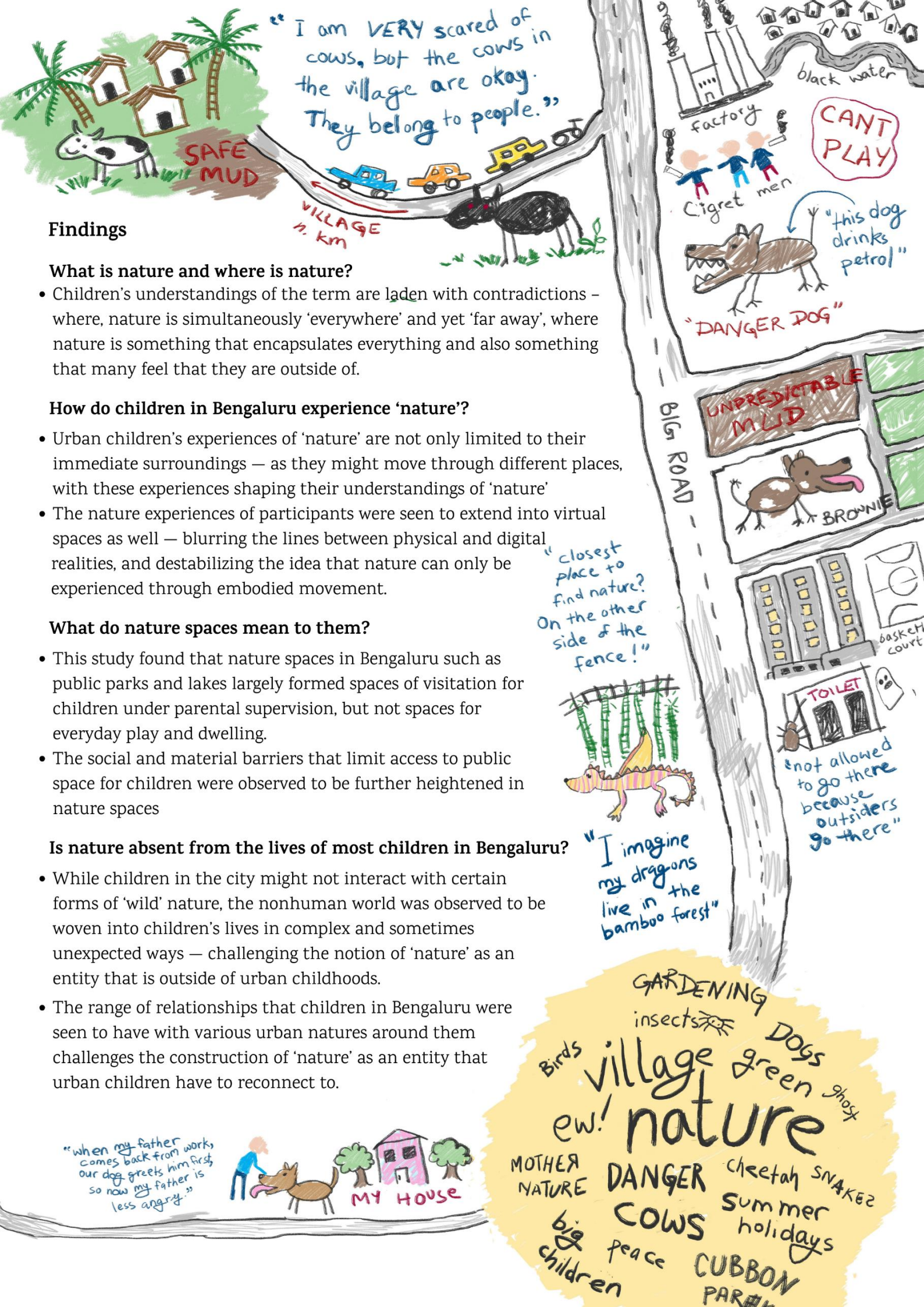
1. How do children in Bengaluru understand and perceive 'nature'?
2. How do children of Bengaluru relate to and interact with the nonhuman world in their everyday lives?

To do this, we used a questionnaire survey and involved several open-ended methods

## Research Methods

- Questionnaire Surveys (n=160)
- Observant Participation
- In-Depth Interviews (n=15)
- Photovoice (n=5)
- Journaling (n=5)
- Focus Group Discussions (n=5) with a mapping activity





## Findings

### What is nature and where is nature?

- Children's understandings of the term are laden with contradictions – where, nature is simultaneously 'everywhere' and yet 'far away', where nature is something that encapsulates everything and also something that many feel that they are outside of.

### How do children in Bengaluru experience 'nature'?

- Urban children's experiences of 'nature' are not only limited to their immediate surroundings – as they might move through different places, with these experiences shaping their understandings of 'nature'
- The nature experiences of participants were seen to extend into virtual spaces as well – blurring the lines between physical and digital realities, and destabilizing the idea that nature can only be experienced through embodied movement.

### What do nature spaces mean to them?

- This study found that nature spaces in Bengaluru such as public parks and lakes largely formed spaces of visitation for children under parental supervision, but not spaces for everyday play and dwelling.
- The social and material barriers that limit access to public space for children were observed to be further heightened in nature spaces

### Is nature absent from the lives of most children in Bengaluru?

- While children in the city might not interact with certain forms of 'wild' nature, the nonhuman world was observed to be woven into children's lives in complex and sometimes unexpected ways – challenging the notion of 'nature' as an entity that is outside of urban childhoods.
- The range of relationships that children in Bengaluru were seen to have with various urban natures around them challenges the construction of 'nature' as an entity that urban children have to reconnect to.

"when my father comes back from work, our dog greets him first, so now my father is less angry."



GARDENING  
insects  
Birds  
village green  
Dogs  
ghost  
ew! nature  
MOTHER NATURE  
DANGER  
COWS  
big children  
peace  
CUBBON PARK  
cheetah  
SNAKES  
summer holidays

## Introduction

It is now not uncommon to speak of children in cities as suffering from ‘nature-deficit disorder’; a term coined and popularised by the writing of Richard Louv (2006). Though not a medical or clinical diagnosis, it is a term that describes the deepening disconnect between ‘children’ and ‘nature’ in a rapidly urbanising world — where children in cities are described to be spatially and emotionally distant from the natural world. These anxieties over children’s disconnect with the natural world have become even more amplified as governance around the Covid-19 pandemic has shaped how the outdoors are experienced and increased dependencies on virtual technologies (Rios et al., 2021). Embodied experiences of nature and the outdoors have been observed to influence the development of children’s affective attitudes towards nature, and their subjective well-being (Chawla, 2020; Cheng & Monroe, 2012). Urban children, in this sense, are twice removed from nature — once through their spatial distance from ‘nature spaces’ by living in cities, and then through their limited access to the outdoors within the city and their increasing inhabitation of virtual worlds.

A collaborative project between Nature Classrooms, housed at Nature Conservation Foundation and Azim Premji University, ‘Children, Nature and the City’ looks to explore children’s geographies in the urban by attending to the everyday lives of children, and learning about how children in the city of Bengaluru relate to ‘nature’ and the nonhuman world. The Nature Classrooms project ([natureclassrooms.org](http://natureclassrooms.org)) works on making existing environmental studies curriculums more contextually relevant by integrating elements of nature-learning and making the process more meaningful for learners and educators. ‘Children, Nature and the City’ is an exploratory study that branches from these efforts — to understand what ‘nature’ really means for children in Bengaluru. This report reviews the existing literature on child-nature relationships, delineates the research process of the study and dwells on children’s articulations of their relationships with the nonhuman world. By dwelling on these articulations, it looks to bring attention to the many ways in which children in the city of Bengaluru affect and are affected by ‘nature’ and the other-than-human world.



# CHAPTER 1

# Literature Review



Photo Credits: Roshni Ravi

## Chapter 1: Literature Review

The study of how humans interact with, shape, and are shaped by their environments forms a large body of work across disciplines such as anthropology, sociology, geography and psychology, and sub-disciplines within. A subtheme of this body of work focuses on human-nature relationships in varying spatial and temporal contexts. It engages with a wide range of methodologies and perspectives in the theorisation of these relationships. This literature review is divided into two sections: the first will delineate the various constructs that are integral to the field of environmental psychology and trace the use of instruments to measure these facets of human-nature relationships, and more specifically, child-nature relationships; the second will critically examine the use of the constructed categories of 'childhood', 'nature' and 'urban' in this literature. It will trace the theoretical turns in the conceptualisations of 'childhood' and 'nature' by discussing various publications on child-nature relationships in the New Social Studies of Childhood (NSSC). By providing an overview of the central debates in the study of child-nature relationships, this literature review will look to frame the research questions and build a conceptual framework to the research project.

### 1.1 Getting a measure of humans and nature

Human-nature relationships have been particularly of interest in the context of *change* i.e change in human-nature relationships vis-a-vis rapid urbanisation, environmental degradation and ecological crises. In the late 1960s, with the rise of modern environmentalism in the global north, environmental concerns lent themselves to, and were assimilated into other movements that challenged the status quo (Woodhouse, 2008). Many authors suggested that these issues stem from a majority of people in a society holding conventional values, beliefs and attitudes (Dunlap & Van Liere, 1978). The recognition that environmental issues are not merely technological in nature, but are behavioural and attitudinal has resulted in 'attitudes' and 'behaviour' becoming core environmental and conservation concerns (Clayton & Opatow, 2003). Attitudes have since been argued to have a significant influence on behavioural outcomes (Bradley et al., 1999). Within this rationale, 'attitudes' have

become an integral construct in the study of environmental issues and social change. Contemporary theorists suggest that affect, beliefs and behaviour interact with attitudes; where attitudes have an effect on these components and can be inferred from them (Milfont & Duckitt, 2010). Attitudes continue to be discussed extensively today and are in discussion in a majority of publications in the field of environmental psychology (Hawcroft & Milfont, 2010).

Dunlap and Van Liere (1978) framed the prevailing set of conventional values, beliefs and attitudes where a lot of environmental issues stem from as the 'Dominant Social Paradigm' (DSP); this consists of beliefs in a *laissez-faire* economy relying on a free market, limitless growth, limited government intervention and increasing privatisation. The paper frames the assertion of environmentalists that pose a challenge to these ideas as the 'New Environmental Paradigm (NEP)'. The study looks to understand the degree of acceptance of these opposing beliefs among the public in Washington, and develops an instrument to measure the same (Dunlap & Van Liere, 1978). Instruments using a Likert scale to measure attitudes, however, have the tendency to quickly become outmoded in an ever-shifting landscape of environmental concerns and knowledge — hence, they require timely re-evaluation. As the authors acknowledge in a paper revising the NEP scale, the construct of an ecological/environmental worldview is 'inherently somewhat amorphous' (Dunlap et al., 2000). Several studies have also developed their own scales that seek to measure this construct and understand the environmental orientations of individuals and groups. Hawcroft and Milfont (2010), in their meta-analysis of the use of the NEP scale, hint towards an 'anarchy of measurement' in the study of attitudes. With many studies developing separate scales, they suggest that the study of attitudes has become an 'atheoretical and noncumulative' enterprise (Hawcroft & Milfont, 2010). The original New Environmental Paradigm scale in its first formulation focussed on three facets i.e. the balance of nature, the limits to growth and antianthropocentrism; and later in its revision, what was renamed as the New Ecological Paradigm scale, added the facets of the possibility of an ecocrisis and the rejection of exemptionalism (Dunlap et al., 2000). Along with the NEP, similar scales such as the Ecology Scale (Maloney & Ward, 1973) and the Environmental Concern Scale (Weigel & Weigel, 1978)

have been the most widely used scales to study attitudes. Other measures that seek to understand ecological consciousness and the motives underlying environmental attitudes have also been developed — studying attitudes as a spectrum that range from anthropocentrism to ecocentrism (Thompson & Barton, 1994).

Hawcroft and Milton (2010) suggest that of these instruments that study pro-environmental orientations, the NEP scale is the most universal as the others are more susceptible to becoming outdated. The ideas behind the statements used in the New Ecological Paradigm scale, however, are not necessarily 'universal'. Most statements frame the 'human' in opposition to 'nature'; upholding dichotomous conceptualisations of nature/culture; for example, note the statements “when humans interfere with nature, it often produces disastrous consequences”/“humans are severely abusing the environment”. In the Anthropocene, the 'human' shifts from being a biological agent to a geological agent, drastically shifting the scale of effect (Chakrabarty, 2009). The Anthropocene holds strength as a conceptual category to think with; but, species-level thinking is severely limited in its understanding of human-nature relations. One item in the instrument says 'we are approaching the limit of the number of people the earth can support', referring to a viewpoint that counters the dominant idea of infinite growth; but at the same time, it alludes to a Malthusian idea that does not consider the high variability in the environmental impacts of different groups and people (Robbins et al., 2014). This illustrates that the use of scales to understand attitudes can be limiting in its ability to capture nuanced perspectives; these scales can be tenuous outside of the context that they are developed in. Further, only few have been tested across diverse audiences. Even with these drawbacks, quantitative tools are used extensively in the study of attitudes as they provide a framework to comparatively analyse attitudes across groups. Furthermore, they are useful in the assessment and evaluation of programs that are designed to affect change in the environmental orientations of participants.

Environmental knowledge and attitudes have been reported by researchers to have moderate to strong positive correlations between them (Bradley et al., 1999).

Environmental education programs being largely designed for children have created a need for the development of tools that are suitable for the assessment of

environmental orientations among young people. This has fuelled the development of instruments with items that are age-appropriate and that factor in the developmental stages of the participants. The modification of the New Ecological Paradigm scale (2020) for 10-12 year old children by Manoli et al. (2007) brought down the number of items from 15 to 10 and revised the wording of the statements to make it more accessible for the age group. The authors suggest that the instrument will allow for building an understanding of the environmental worldviews of children, assessing environmental education programs that are designed for children and comparing environmental orientations between groups of children from varying backgrounds (Manoli et al., 2007). Its applicability to groups of children from different socio-economic and cultural backgrounds, however, was not tested during the development of the instrument.

Other studies have developed instruments in congruence with sample groups of diverse backgrounds; Larson et al. (2011) build on the important components established through existing research to design an instrument that measures environmental orientation in diverse groups of children. Tools developed to assess environmental orientations, even of relatively more diverse groups of children, have largely been developed and validated in the context of Western countries. Recognising the drawbacks of quantitative instruments in capturing children's thoughts and ideas, Larson et al. (2011) suggest the use of a mixed-methods approach. Salazar et al. (2021) further highlight the inadequacies of a purely quantitative approach in capturing the complexities of children's attitudes and the subtleties in their changes. In the study focussing on the attitudes of children towards wildlife in rural India, the authors test five different approaches using a balanced summative empathy scale, attitude questions with a seven point rising scale, the INS (Inclusion of Self in Nature) scale, open-ended attitude questions and an embedded assessment activity. The authors suggest that a rising point scale is more useful than balanced scales (with both positive and negative endpoints) in measuring subtle shifts in children's attitudes, but call attention to the need for the development of culturally appropriate tools to better understand children's attitudes and evaluate the efficacies of environmental education programs (Salazar et al., 2021).

The study of environmental views and orientation/attitudes is closely associated with the understanding that global ecological problems stem from distorted human-nature relationships (Manoli et al., 2007). It focuses on people's core beliefs and knowledge-based information as representative of environmental concerns and as an influence on pro-environmental behaviour. An element of attitudes about the environment has been the extent to which individuals believe that they are part of nature. White (1967) argues that the roots of our ecological crises originate from western religious traditions that see 'nature' as a separate entity that exists for the extraction and use by man. The Inclusion with Nature in Self (INS) scale, through a seven-point rising scale that is pictorially represented, measures the extent to which the individual believes they are a part of nature (Schultz, 2002). Schultz et al. (2004) argue that these are implicit connections that exist outside of conscious ideation — taking the understanding of attitudes beyond knowledge-based information. However, even measures that study how individuals identify with nature do not capture their affective and experiential relationships with the natural world (Mayer & Frantz, 2004).

The distortion in the relationships between human and nature have been observed to have adverse effects on people's general well-being (Ives et al., 2017). As populations become increasingly concentrated in cities, the question of how individuals connect with and relate to nature has gained prominence. Nisbet et al. (2009) suggest that disconnectedness could be deepening ecological destruction. Human-nature connections (HNC) as relatedness/connectedness have emerged as another key construct in the field of environmental psychology. The Connectedness to Nature Scale (CNS), developed by Mayer and Frantz (2004), is built on the premise that only through affective relationships with the natural world will feelings of collective welfare develop; and consequently, these feelings will have an influence on behavioural outcomes. While the study does not establish causal relationships between behavioural outcomes such as eco-friendly acts and feelings of connectedness with nature, the study shows a strong significant positive relationship. In addition to the affective relationships that are cognitive and emotional which the CNS scale captures, Nisbet et al. (2009) suggest that the physical aspect of human-nature relationships are a key component in an individual's sense of connection with

nature. The authors, in their Nature Relatedness Scale (NR), include statements that measure the components of 'experience' along with 'perspective' and the 'self'. For research contexts where time might be a limitation, the scale was later revised to a six item scale removing 'perspective', a component that is more focussed on attitudes (Nisbet & Zelenski, 2013). The scale has similar drawbacks to the NEP in its suitability to varied cultural contexts as it holds firmly western-centric understandings of nature and culture. It has also been brought into question whether nature connection/relatedness measures capture *actual* affective relationships or beliefs that one might hold about these relationships (Richardson et al., 2019). Further, items that measure the component of 'experience' which has become central to understanding human-nature connections is as susceptible, if not more, to becoming inadequate across other social and cultural contexts.

Scales have been developed and adapted to study nature connections among children of varying age groups. The six item nature relatedness scale mentioned earlier, has been adapted for the use of 8-12 year old children by the Royal Society for the Protection of Birds (Bragg et al., 2013). The Connection to Nature Index (CNI) is a seventeen item scale that has been developed for 8-10 year old children focussing on the aspects of 'enjoyment of nature', 'empathy for creatures', 'sense of oneness' and 'sense of responsibility' (Cheng & Monroe, 2012); the scale was tested for the use of 8-12 year old children by the RSPB and a revised scale with fewer items has been made available (Salazar et al., 2020). Other scales such as the Nature Connectedness Index (NCI) by Richardson et al. (2019) have been developed to be suitable for adults as well as children who are of seven years and above which is the age at which written surveys begin to be used. Along with methods, the instruments used to evaluate an individual's connection to nature often vary with age; with older children having a more established sense of self and ability to relate to abstract and generalised terms such as 'nature', more questions surround ideas such as kinship and self-identification with nature (Chawla, 2020). Nature connection levels have also been seen to vary with age; with research showing a significant dip in nature connection upon reaching adolescence (Hughes et al., 2019). However, as is in the case of nature connection scales designed for adults, scales that measure nature connection levels in

children can also be rendered inapplicable with shifting cultural contexts (Sobko et al., 2018). Salazar et al. (2021) suggest that it is crucial to understand whether these scales can be modified to be more sensitive to shifting cultural contexts; however, it can be argued that quantitative measures are inherently non-adaptable.

Nature connection in children has been studied through both qualitative and quantitative research — both these streams of research have highlighted nature connection as an experience that is positive and beneficial (Chawla, 2020). Qualitative research has focussed on the ways in which these connections are formed while quantitative research has been important in studying the levels of nature connection. Nature connection has been seen to have positive linkages with subjective well-being in adults (Capaldi et al., 2014; Nisbet et al., 2011) as well as in children (Cheng & Monroe, 2012); children with higher levels of nature connection are likely to have fewer social and psychological complaints (Chawla, 2020). They have also been observed to have stronger pro-environmental orientations and are more likely to engage in pro-environmental behaviour (Mackay & Schmitt, 2019) — making nature connection in children a concern for conservation (Zylstra et al., 2014). Parenting styles, family values, time spent outdoors, age and gender have been noted to influence nature connection in children (Chawla, 2020); of the various factors that increase nature connection, access to nature and time spent in nature have been noted to be crucial (Cleary et al., 2020). Children with higher levels of access to nature and more exposure to nature spaces have been associated with showing more care for the natural world (Barthel et al., 2018; Chawla, 2021). The benefits of nature contact for children have been well-documented in quantitative research as well as ethnographic research. Nature contact has been found to have positive linkages with various parameters of well-being (Windhorst & Williams, 2015). Children with access to expanses of nature and the outdoors have been observed to score significantly higher on scales of emotional and psychological well-being (Windhorst & Williams, 2015). Chawla (2015) traces research from the 1970s in the context of various dimensions of health, showing the different ways in which access to nature can promote children's well-being; the paper highlights the implications of these linkages for the planning of



urban spaces. Chawla (2015) urges for the use of mixed-methods research designs to capture children's interactions with nature.

Urban spaces and more specifically, children in urban spaces have garnered a lot of attention in the study of nature experiences. This emerges from the fear that nature is becoming increasingly degraded in urban landscapes and access to nature for children is becoming increasingly limited. The next section will engage with the categories of 'childhood' and 'nature' as constructed – critically examining the use of these terms in studies that focus on child-nature relationships in urban spaces. In doing so, it will look to provide the rationale of this study and lay out the theoretical grounding of this paper.

## **2.2 Making sense of nature, childhood, and the urban**

“From infancy, we concentrate happily on ourselves and other organisms. We learn to distinguish life from the inanimate, and move towards it like moths to a porch light”, writes E.O. Wilson (1984, p.1) in his influential book 'Biophilia'. The hypothesis is built on the idea that humans have an innate desire to connect to the natural world. The author argues, through the lens of evolutionary biology, that humans have an inherent inclination to be in awe of nature as well as fear certain elements of the natural world. These biases are 'human nature' which can be reproduced and turned into myths, stories, and meaning through culture. This idea gained immense popularity in the field of environmental psychology and in the child-nature discourse – especially in the context of children who reside in urban spaces. Of the work that has referred to and built upon this hypothesis, Richard Louv's book 'The Last Child in the Woods' has captured imaginations in the child-nature discourse like none other. Painting a frightening picture, Louv (2006) argued that children have never been more disconnected from the natural world and are suffering from a 'nature-deficit disorder'. This image has been reproduced within social movements that focus on (re)introducing children to the wild natures that they do not see in their nature-deficient cities; Shillington & Murnaghan (2016) argue that while the imagination of what constitutes urban nature is continually broadening within these movements, the image of the nature deficient child continues to be held center-stage and reproduces problematic ideas of nature-culture relations.

The tensions between *nature* and *urban* are reflected strongly in the child-nature discourse. Nature is a contested category holding a multiplicity of definitions; with meanings that shift with cultural context, these definitions are sometimes even conflicting and contradictory. Nature is not devoid of a social, cultural, and political history and is continually being transformed; the urban is part of these transformations. Kahn and Weiss (2017) warn of an ‘environmental generational amnesia’ as a pressing psychological problem — arguing that children need to interact with ‘big nature’ to not come to the understanding that the degraded landscapes that they are born into are normal. The ‘big nature’ that the paper refers to first comes in the form of unmanaged and wild landscapes — the ‘purest’ form of big nature. The authors acknowledge the relativity of the term; suggesting that this big nature could be experienced in other forms. For children residing in heavily urbanised landscapes, this could be experienced through simple movements in nature even in one’s backyard. Many publications reinforce the idea of the ‘wilderness’ — alluding to a romantic idea of ‘nature’ that exists outside of human perversion. William Cronon (1996) in the essay, ‘The Trouble with Wilderness. Or, Getting Back to the Wrong Nature’, critiques the idea of the *wilderness* and its use in modern environmentalism as reproducing the problematic binary of nature-culture, placing the human outside of nature. With the idea of what constitutes ‘nature’ continually expanding, many publications now define nature spaces in the form of green spaces, rough terrains, waterways etc., (Chawla, 2015). Shillington and Murnaghan (2016) acknowledge the publications that highlight the many benefits of green spaces and the social movements that push for greater access to these spaces; but, they argue that there is also a need to examine how nature is introduced to urban children, and which natures are produced for them.

Nature and childhood are two commonly conflated concepts; with childhood often being framed as natural and universal (Taylor, 2011). Taylor (2013) suggests that the singular Nature (with a capitalised ‘n’) that childhood is conflated with, needs to be deconstructed and reconceptualised to reclaim the natures that exist in plural forms. The author argues that the coupling of the two has its roots in the Enlightenment period — with the production of the idea of a singular Nature and the subsequent

attachment of childhood to this idea. Nature here was constructed as pure and innocent, and culture as a corrupting presence. This conflation with Nature has implications for how children are represented in the child-nature discourse. Children are seen to have an inherent affinity towards nature and children in urban spaces are therefore seen as being removed from where they *originally* belong. They are understood to be distanced from their biological needs and desires. This relies strongly on the claim that there is a past utopia of nature that we need to return to and return our children to; underlying this claim is also the assumption that all interactions with this pristine nature are positive and beneficial (Malone, 2016). Proponents of movements that aim to reconnect children to nature hold this claim in their foundations. By (re)connecting children to nature and educating them about the environment, they seek to build future custodians for nature. In the discourse of intergenerational climate justice, this is a powerful image — it recognises differentiated responsibilities for climate change. It also forms a driving force in the study of environmental orientations and attitudes of children, as well as in educational programs; where children are seen as ‘future adults’ in whom values of environment stewardship and conservation need to be inculcated. Malone (2016), however, argues that this reasoning of nature as ever-benevolent and uplifting is ahistorical and that it universalises a certain idea of ‘childhood’.

The sociology of childhood has for long presented contestations to the idea of a universal and passive childhood. Prout and James (1990, p.8) point towards an emergent paradigm and argue that childhood is a social construction that is “distinct from biological immaturity, and is neither a natural nor universal feature of human groups”. This paradigm counters the linear and biological conceptualisation of childhood in psychology (Holloway et al., 2019) — asserting that there is no one singular experience of childhood. For example, the experience of childhood is also inextricably tied to other socio-economic variables such as caste, class, and gender (Balagopalan, 2014; Rajan, 2021). Furthermore, this paradigm challenged the notion that children are only passive beings whose lives are entirely determined by societal forces; instead, it made the assertion that children are also active participants in the making of the societies that they live in whose views should be paid attention to

(Prout & James, 1990). The New Social Studies of Childhood (NSSC), with roots in anthropology and sociology before its consolidation as an interdisciplinary project, was built on these founding conceptions (Holloway et al., 2019). Holding these key conceptions, children and nature have been considered in various publications in the Geographies of Children, Youth and Families (GCYF) — a strand within this interdisciplinary project. These publications focus on children's experiences of nature across varied contexts. Kong (2000) explores how children in a heavily urbanised Singapore experience and construct nature. The paper focuses on children's relationships with nature through the aspects of playing, living, and learning; foregrounding children's experiences of these activities under parental gaze and control. Änggård (2010) writes about the use of "nature" in a Swedish preschool and children's experiences of this pedagogy. Using ethnography and other qualitative research methods, these papers capture child-nature relations in varied and specific contexts with distinct groups of children. Sanderud et al.,'s (2020) ethnographic research studies child-nature relationships by focussing on children's engagements with snow in a Norwegian kindergarten school. Other research has engaged with nature material in the production of social lives while not explicitly dealing with 'nature' in its framing — Dyson (2010) examines the relationship between friendship, cultural production, and social reproduction through the practice of leaf-collection by children in the Himalayas. This strand of work regards children as competent social beings with agency. Tipper (2011) brings out children's experiences of dogs in their everyday lives. Demonstrating how their social lives are interwoven with the nonhuman world, the author argues that these experiences and views of children challenge nature/culture dualisms. Shillington & Murnaghan (2016, p.4) argue that while children hold the capacity for agency in children's geographies, nature often appears as "uncomplicated trees, pets and plants" — pointing out a lack of focus on nonhuman agency in the construction of child-nature relationships.

A strand in children's geographies has begun to engage with non-representational theory — standing on the premise that agency is not an inherent quality held by an individual child, instead, agencies/subjectivities are generated through networks of human and non-human actants (Holloway et al., 2019). Within this premise, there is a

decentring of the human and the focus is shifted onto the relational generation of agency — where agency is located in the encounters between these actants. This theoretical framework presents a shift from the constructivist approaches to understanding human-nature relations employed by scholars like William Cronon. In the book 'Nature's Metropolis', Cronon (1992) employs a constructivist approach in looking at the production of Chicago — arguing that it is not solely due to Chicago's physical location, but also through ideas, social relations and social practices. The city, in this sense, cannot exist without the idea of the countryside. The non-representational shift emphasizes the problem of materiality — with research focusing on the hybrid agencies that emerge in connections between human and nonhuman actants, where agency does not lie within the individual (Holloway et al., 2019). The place of nonhuman actants in the production of hybrid agencies has been explored in children's geographies through entities that are biologically living, as well as non-living. This post-human turn in the understanding of child-nature relationships allows agential capacity to all nature matter, focussing on the entanglements of humans and nonhumans (Änggård, 2016). Rautio, (2013) focuses on stones and the practice of children carrying stones in their everyday lives — arguing that children are not only related to these entities but are constituted by them. Taylor & Pacini-Ketchabaw (2015, 2017) and Malone (2016) show the discursive effects of engaging with the agential capacity of nonhuman animals and their ability to challenge notions of a nature/culture divide. This non-representational turn in the study of child-nature relations offers alternative modes of understanding the relationships between humans and nonhumans; but, a critique levied is that in doing so, it moves away from 'overtly political-economic issues' (Holloway et al., 2019, p.464) and that there is a reduced focus on traditional modes of power. Horton and Kraftl (2018) call for a move towards extra-sectional understandings of childhood; in their paper by focussing on the socio-materialities of children and the more undesirable natures, they bring to the fore the politicised and exclusionary aspects of 'nature spaces'.

This research project attempts to not fall into the trappings of defining a singular 'nature'; instead, it looks to foreground children's ideas of the term as well as their

experiences of the nonhuman world. Acknowledging the role of social relations in constructing ideas of 'nature', the study will look to understand how different children in Bengaluru conceptualise and consume 'nature'. Through participant-centred methods, the study will attempt to trace the materialities of various urban natures in their everyday lives, and learn how children affect and are affected by these urban natures. Following Horton and Kraft's call to focus on the politicised aspects of nature spaces, this study looks to capture the *natures* of children's everyday spaces and the contestations that emerge within these everyday spaces.

# CHAPTER 2

## Methodology

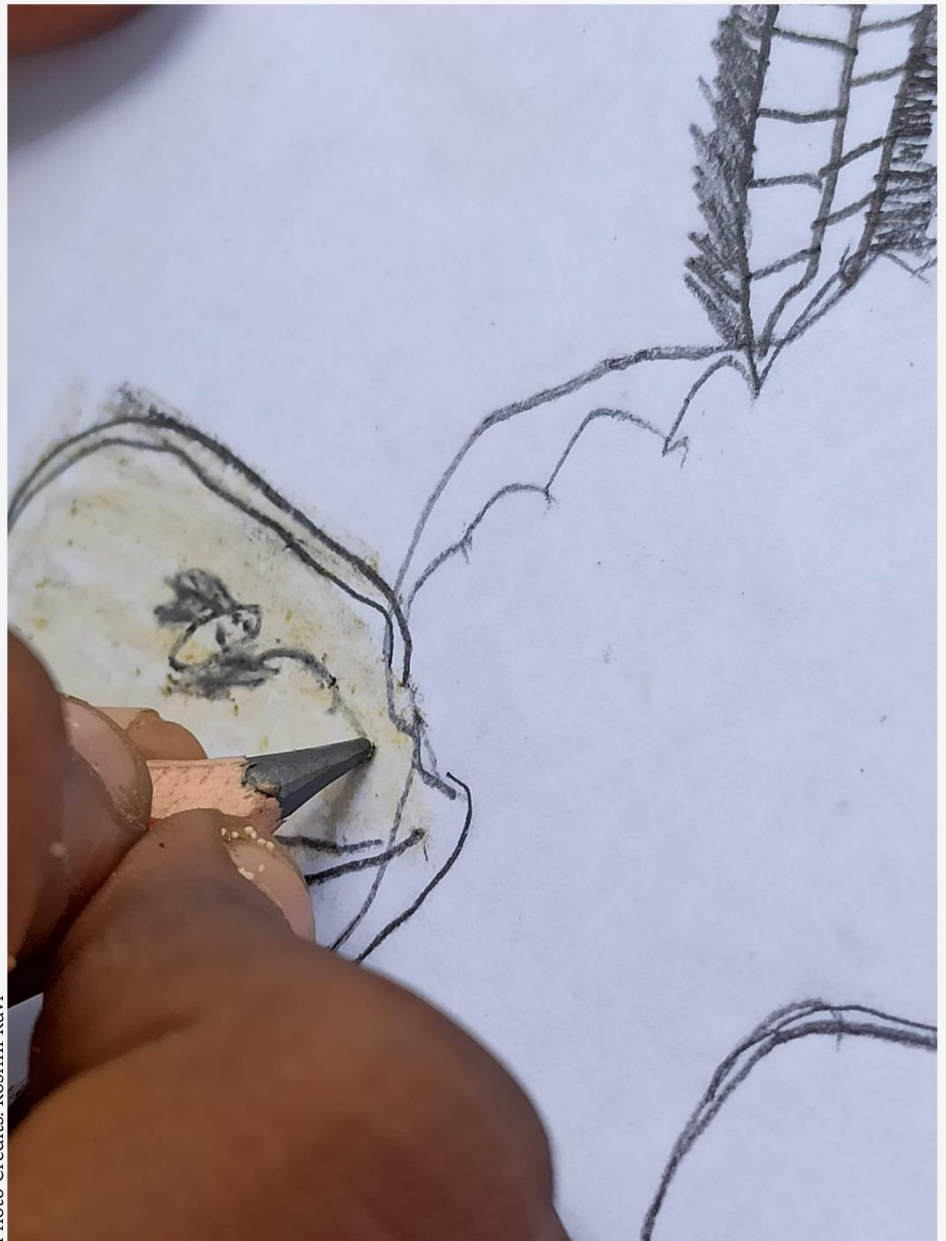


Photo Credits: Roshni Ravi

## Chapter 2: Methodology

The previous chapter provided an overview of the central debates in the child-nature discourse; it discussed various publications in the field of environmental psychology and in the new social studies of childhood (NSSC) that deal with child-nature relationships. The chapter discussed some of the philosophical underpinnings of these publications as well as the methodological challenges in the study of child-nature relationships, or more broadly, human-nature relationships. Section 2.1 discussed key constructs in environmental psychology and the instruments that have been developed to measure these constructs. Quantitative measures have been useful to understand child-nature relationships at scale and to test environmental/nature education and exposure programs; however, a critique levied on these measures is that they are less useful outside of the western contexts that most of them are developed in. To be more suited to the context of the study area and to capture the more subtle processes of *how* children interact with and relate to the natural world, several papers have argued for the development of tools that are suited to context and for the use of mixed-methods research designs (Borsa et al., 2012; Chawla, 2015; Clayton et al., 2021; Giusti, 2019; Salazar et al., 2021; Salazar et al., 2021; Sobko et al., 2018). This study does not engage in the development of a tool to measure any of these constructs; however, it does draw from existing literature in both environmental psychology and the new social studies of childhood to construct a methodological framework. The study looks to explore the geographies of 8-12 year old children in Bengaluru, and their relationships with nature and the nonhuman world; involving various methods in the research design to aid this exploration.

### 2.1 Study Area

Bengaluru is the capital city of Karnataka, India. A growing urban settlement since the 16<sup>th</sup> century, the district has a recorded population of over 9 and a half million with 91% of the people residing within urban areas (Census of India, 2011). Bengaluru's long history of settlement has been remarked to be 'unusual' owing to its geographical terrain with major water sources such as rivers being absent; however, a vast network of interlinked lakes (in many cases, man-made tanks) and small



streams formed by the undulating terrain has been traditionally used as a source of drinking water, and today form 'nature spaces' for urban recreation (Unnikrishnan et al., 2017). Nature in Bengaluru is closely intertwined with the social, political and cultural histories of the city (Nagendra, 2016). The greening of the city under various administrations through parks, gardens and tree-laden avenues have brought Bengaluru the tag of the 'Garden City' (these nature spaces have been discussed and described in more detail in Section 3.2.2). Over the last few decades, the complex dynamics of accelerating developmental activities in Bengaluru have shrunk greenspaces and reshaped their distribution. (Nagendra et al., 2012). More recently, the city has been referred to as the 'Silicon Valley of India' — with the creation of special economic zones and other infrastructures making Bengaluru an IT hub (Chacko, 2007); however, most urban residents remain excluded from any significant opportunities generated through this IT boom (Krishna et al., 2020). The city, while home to a highly mobile affluent class, has large economic disparities — twenty percent of the city's population live in slums (Rajan, 2021). Housing in the city reflect these disparities; different forms of settlements such as older residential areas, gated communities, apartment complexes and settlements operating under varying degrees of informality are present in the city. This analysis does not systematically engage across these socio-economic substrata as defined categories; however, these sub-groups formed a basis for involving diverse voices in the study. Children from different parts of the city participated in the research activities. Participants were gathered through snowball sampling — by speaking with parents, tuition teachers, schools and NGOs.

## **2.2 Research Methods**

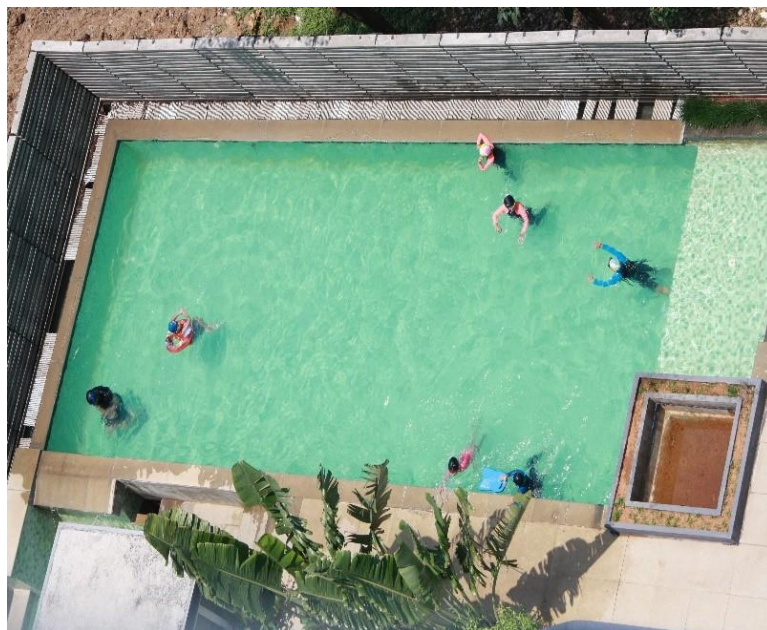
The methods that are involved in the study have necessitated the use of different approaches to defining a sample size and to the process of field research. The study was divided into two components on the basis of these approaches. The process of field research for these components followed parallel pathways by engaging with different sets of participants; but, the findings from these processes have been made to converse with each other to build a critical discussion. The first component used a questionnaire survey format — asking questions relating to children's social locations,

their daily activities, what they understand *nature* to be and about their experiences of nature. The questionnaire survey draws from the field of environmental psychology – including two scales that look to measure children’s connections to nature and understand how much they identify with nature. The questionnaire survey included items from the revised version of the Connection to Nature Index (Salazar et al., 2020). The original scale was developed by Cheng and Monroe (2012) for children aged 8-10; subsequently, a study by Bragg et al., (2013) tested the scale with children from a larger age range and found the index to be appropriate for children aged 8-12 years. The index assesses children’s affective attitudes towards nature; with items relating to their ‘enjoyment of nature’, ‘empathy for creatures’, ‘sense of oneness’ with and ‘sense of responsibility’ towards nature through the use of a Likert scale. The questionnaire survey also included the Inclusion with Nature Scale (INS) (Schultz, 2002) – the single-item scale with a seven point rising option looks to understand how much a part of nature does one feel. The INS Scale has been widely used in studies with both adult participants and with children of age groups upwards of 7 (Salazar et al., 2020). Using this scale in the questionnaire survey, participants were asked to select the picture that best represents their relationship with ‘nature’. The written format of the questionnaire survey had its limitations with participants having varying levels of comprehension; these limitations were partially alleviated by the presence of the field researcher to elaborate on the items and help with any queries that would arise. The form was developed in English and later translated to Kannada (the language spoken predominantly in the state of Karnataka). Participants were given an option to fill it in either language. The questionnaire survey was distributed in five schools (4 private schools, 1 government school) to 160 participants between the ages of 10 and 12. Participants were informed that they could choose to not answer any questions if they did not feel like it; incomplete forms were not discarded and were used for analysis. Age has been marked to be a significant factor in how connections to nature are formed, with the presence of differences between age groups (Chawla, 2020; Hughes et al., 2019; Keith et al., 2021). The age group of 8-12 years for the study was decided based upon the Nature Classrooms project’s interest in how middle-school children connect to ‘nature’. The questionnaire survey was designed to capture a

snapshot of the daily activities of children in Bengaluru, their connections to nature and what they conceptualise *nature* to be.

The study also takes ethnographic route into children's lifeworlds. This component looks to understand children's lives as they are — on-going and becoming. Acknowledging 'nature' and 'childhood' as constructed categories, the component does not define 'nature' in the process of gathering information. Instead, it attempts to allow children to represent their lives in different ways. The age group of participants here was broader; focusing on children between the ages of 8-12 years. The rationale behind broadening the age group of focus was the assumption that children's social lives are strongly intertwined within this age group. For focus group discussions, children up till the age of 14 have been involved to not split up groups of children who hang out together and make them feel excluded. Their views have not been included in analyses as adolescence marks a significant developmental stage. Following Rautio's (2013) call to engage with 'messy methodologies' when researching children's relationships with the nonhuman world, this component uses several open-ended methods for gathering insights into what it means 'to be a child'. The process involved observations, in-depth interviews (n=15), focus group discussions (n=5), photovoice (n=5), journaling (n=5) and informal interviews. The ethnographic section did not operate with a pre-defined sample size; instead, the focus was on understanding the lives of a few participants in more depth over the time available. The component looked to foster a 'methodological slowness'— spacing out research encounters over extended periods of time and paying more attention to the 'everyday' lives of children (Horton & Kraftl, 2006). Focus group discussions were carried out with small groups of 4-8 children in a space that they use, where the researcher would prompt a discussion about their interactions with the spaces that they use in their neighbourhoods, and the values that they ascribe to these spaces. These questions were complemented by a mapping exercise, where children mapped their spatial mobilities and discussed their everyday lives and movement in the city. The study also used photo-elicitation and photo-voice techniques to generate verbal discussions with participants. Photo-elicitation refers to the guided use of photographs in interviews to engage with participants. Photo-voice moves a step further by allowing

the participants to have an active role in the generation of photographs (Shaw, 2021) — these visual materials also formed ‘evidences’ on their own terms and further guided discussions with participants. Participants were involved in the interpretation of these photographs during these discussions. The participants were not given specific themes or prompts on what they were to capture. Rather, they were told to capture their lifeworlds as they thought appropriate, and were given a free-hand to do so. Participants were guided on how to operate the camera, and other basic instructions were given with regard to capturing other people in their photographs. They were told to not disturb people’s privacy when taking photographs and to avoid revealing people’s identities (including their own) in the photographs that they take. As seen in Figure 1, participants were observed to come up with creative ways to depict their everyday activities while following these instructions. The study also used journaling as a tool — this followed a similar process to photo-voice where participants would journal their everyday lives for a specific period of time; these were used in verbal discussions afterwards. Through these methods, the study looked to gather child-centred and child-generated perspectives of the ‘everyday’. The field research was carried out between April and August 2022 by the corresponding author, who will be referred to as ‘A’ in the conversational excerpts shared in the results and discussion.



*Figure 1: A participant's depiction of an activity that is important to them (captured from an angle that does not reveal people's identities)*

### **2.3 Mode of Analysis**

Child-Nature-Ooru is an exploratory study that looks to garner insights into the different ways in which 8-12 year old children in the city of Bengaluru relate to nature and the other-than-human world. The study analyses the data gathered through the various methods listed above using an inductive approach. The information gathered was coded using NVivo, a qualitative data analysis software, during the process of field research – this followed a reiterative process of coding and recoding through which larger themes emerged gradually. Non-verbal outputs from the research activities, such as maps and photographs, formed evidences that underwent the same modes of analysis. These outputs were also used to further facilitate conversations with participants which provided more context to them. The narratives that emerged were qualitatively analysed in relation to the research questions and the relevant existing literature; to facilitate a conversation between the field and theory. Information relating to children’s activities and indexes measuring connection to nature and inclusion with nature, gathered through the questionnaire survey format were analysed quantitatively through the use of IBM SPSS. Findings from all of the analyses are themed and elucidated through the various sub-sections of Chapter 4 (Results and Discussion). Anecdotes and quotes from the various research activities and outputs generated through these activities have been used to further illustrate the arguments. Respondents and participants have been referred to using fictional names to ensure their anonymity in the research study. In addition to the anecdotes, ‘chunks’ of data, with randomly selected responses in the questionnaire survey have been depicted through tables to capture the range of differences as well as commonalities in the responses of participants.

### **2.4 Informed Consent and Agency in the Research Process**

The choice of methods in the study were made not only on the basis of their ability to answer the research questions, but to allow participants to be more involved in the research process. The affordances provided by a variety of research tasks could encourage participants to be more conscious of their agency, and to engage with the tasks accordingly (Hutchison, 2011). Participants were allowed to choose between certain research tasks as they preferred. Further, ethical considerations about doing

research with children guided the use of these methods. The question of 'informed consent' becomes significantly more complicated when working with children. Through the methods used, the study looked to make the research experience one that is less exploitative and more collaborative (Woodyer, 2008). An attempt was made to invite children to participate in the study through spaces of the home and the neighbourhood rather than institutional spaces such as the school; which are structured within certain processes of surveillance and control (Barker & Weller, 2003). The component with the questionnaire survey was carried out online whenever possible; but this proved to be less feasible and they were mostly carried out in schools. The questionnaire survey included an informed consent form that included all the necessary information (refer to Appendix A) to help parents and teachers to make an informed decision about allowing their child/student to participate in the research. For the open-ended methods, verbal consent was obtained from parents of the participants and the participants themselves after explaining the tenets of the consent form. In addition to this, an information leaflet adapted from Morrow (2008) was used to explain these tenets to participants in simplified form (refer to Appendix B). These processes would take place before the start of any research activity.

## **2.5 Positionality Statement**

The field research for the study was carried out by me, Aashish Gokhale, referred to as 'A' in conversational anecdotes used in the report. I am including this positionality statement to acknowledge and engage with the subjectivities that inform the research process. The initial idea for the study was to research children's nature-literacy levels and their attitudes towards nature; the study design was more knowledge-based, focussing on children's understandings of the natural world. My interest in human-nature relationships brought me to this project; and after joining, I began reading more specifically about child-nature relationships and reviewing literature from different disciplines. My previous research experiences informed the way I thought about human-nature relationships coming into the project, and the way in which it was later shaped. My dissertation thesis on human-monkey entanglements in Great Nicobar Island especially did so, as it introduced me to animal geography and to thinking about *other* actors in the production of urban

space — a practice I found meaningful even within this research project. Through reading, reflection and discussions with the other project members, the research design was slowly moulded to its current form; moving to a design that focussed more on children's articulations of their relationships with 'nature' and their everyday interactions with the nonhuman world.

The research methods involved in the study, as expressed in section 2.4, are an attempt to allow children more agency in constructing their own narratives around their lives. My geography of 'position' as an adult researcher meant that I was more often an outsider to the contexts that the participants inhabited than not (Philo, 2003). Approaching children's spaces through the gatekeepers of these spaces (parents, carers and educators) also meant that I was viewed in relation to these gatekeepers. But at the same time, by building a rapport and explaining the tenets of anonymity and confidentiality, I found that I occupied a unique position — where participants often expressed views and aspects of their lives that they may not have to these gatekeepers. In spaces like the school, where children engaged in research outputs that were written, participants were told they could come up with fun, new names for themselves that they liked to write on the forms to maintain their anonymity, and were asked to give them to me personally. While I occupied this unique position, my identity as a cisgendered, male, upper-caste adult research professional might have had an effect on how participants responded to each of the research activities. I have included myself in some of the excerpts in this report to signify and make known my active presence during research encounters.

During a research activity, a participant asked me why I am speaking to them to learn about what it means to be a child when I too have been a child once. I explained to him that I want to learn about children's lives now, and that my experience and memories of being a child will 'inevitably be processed through adulthood' (Philo, 2003). In this research context, as someone who is not entirely an 'outsider' but an adult researcher who was once a child growing up in different cities, I have looked to reflect on my own thoughts, feelings and memories throughout the research process. The relations of difference between the research and the researched do shape the ways in which their worlds are portrayed — but, I have attempted to

keep children's narratives about their lives and lifeworlds central to the discussions in this report.



## CHAPTER 3

# Results and Discussion



Photo Credits: Roshmi Ravi

### Chapter 3: Results and Discussion

“Never before in history have children been so plugged in and so out of touch with the natural world”,

reads the description of Richard Louv’s (2006) book ‘The Last Child in the Woods’. The book describes a ‘nature-deficit disorder’ that children are extremely vulnerable to in a rapidly urbanising world – with urban children being removed from and disconnected from nature. Drawing heavily from Wilson’s (1984) biophilia hypothesis which suggests that children inherently possess an affinity towards ‘nature’, the image of the plugged-in child has stirred adult sentimentality within the child and nature discourse (Malone, 2016). This sentimentality stems from a nostalgic longing for a ‘simpler past’ where human societies, and in particular children, were more connected to ‘nature’. This idea has also fuelled social movements that have emerged from within the child and nature discourse which attempt to (re)connect children to ‘nature’ (Shillington & Murnaghan, 2016). Another idea that underpins this sentiment is that the ‘urban’ is devoid of ‘nature’ – referring to a particular form of *nature* in spaces that are typically less dominated and reconfigured by humans. This frames current urban lifestyles as ‘unnatural’ and (re)connecting children to ‘nature’ as a matter of teaching and (re)learning the ways of ‘nature’ (Rautio, 2013). These ideas have been critiqued for reifying and reproducing problematic and dichotomous conceptualisations of nature and culture (Malone, 2016; Rautio, 2013; Shillington & Murnaghan, 2016); as well as conflating the terms ‘nature’ and ‘childhood’ (Taylor, 2013). This chapter is divided into two sections. The first, ‘Constructing Nature’, will engage with how children in Bengaluru make sense of the *nature* that sits in italics – the meanings and ideas that they associate with the term. By delving into children’s ideas of nature, it will discuss the tensions and contradictions rife within nature as a constructed category. Without defining an absolute and singular *nature*, this section will look to explore children’s interpretations of the term, where they locate nature to be and how they relate to it. The contents of this section have been divided into two parts. 3.1.1 ‘what is *nature?*’ focuses on the different ways in which children learn about and frame nature. While the study does not examine nature-learning through

an analysis of formal education and the prescribed texts within, through examining how children make sense of the abstraction of nature, this section will converse with children's experiences of learning about *nature*. It will also discuss how children relate to the abstract idea of 'nature'. 3.1.2 'where is *nature*?' discusses children's framings of nature as a place and where children locate nature to be. It will dwell on what makes a child 'urban' and discuss how rural/urban dualisms permeate into children's conceptualisations of 'nature'. Section 3.2 looks at how the nonhuman world is webbed into the everyday lives of children in Bengaluru; through its subsections, it will look at how children engage with the outdoors, what meanings nature spaces hold in their lives, what urban natures feature in their everyday lives and how they relate to them.

### **3.1 Constructing 'Nature'**

#### **3.1.1 what is *nature*?**

'SAVE MOTHER NATURE', stated a poster in all block letters. This poster, among many others, was being put up along the corridor walls as part of a school beautification project. A teacher at the school explained,

"Since the walls were looking too grey, we decided to breathe some life into them. We are trying to make the students understand the value of nature"

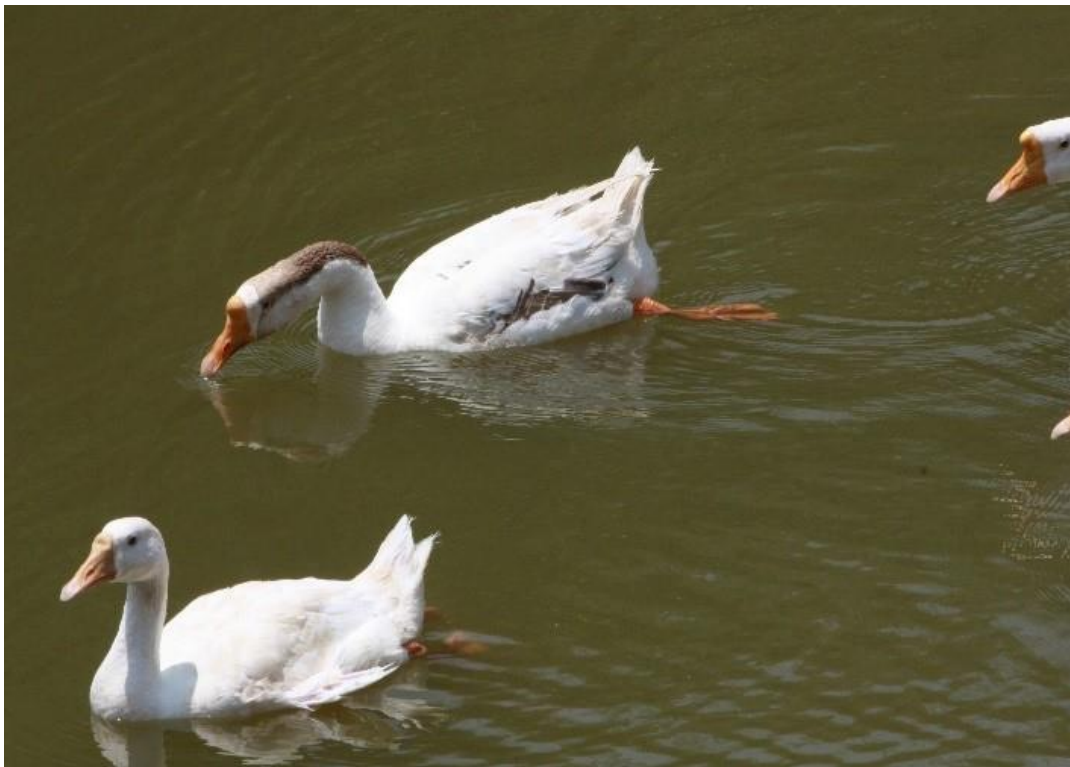
The posters prescribed values that the school believes the students should inculcate. Many of these posters were nature-themed with imagery of dense green canopies or caricatures of the earth. They prescribed individual acts of stewardship — advising children to pick up after themselves, to keep the surroundings clean, and to reduce, reuse and recycle. 'Nature', in this school like many English-medium schools, is not an alien term for middle-school students. Information about nature and the environment is consumed through various facets of the curriculum; in some cases, as a separate and dedicated subject like Environmental Studies/Science. Some schools also organise nature-based activities such as nature walks and field visits to nature spaces which aim to deepen children's knowledge about nature and the environment. Environmental knowledge has been observed to play a crucial role in fostering pro-environmental orientations and attitudes (Bradley et al., 1999); children gaining

comprehensive knowledge about the workings of the natural world could be aiding in the development of a deeper appreciation for it. Children's relationships with nature have been an area of significant focus in the field of environmental psychology — as learning, play and other experiences during the formative years of childhood have a profound impact on the development of environmental views and behaviours (Chawla, 1999). Apart from how children's relationships with nature currently affect their lives, well-being and behaviour, an interest in child-nature relationships stems from the consideration of what children are to become — future adults. Equipping children as a future generation that will have to deal with and solve environmental issues, within this context, becomes a key concern.

In the questionnaire survey, participants were asked if they feel that there are any pressing environmental issues that the world faces today. They were largely able to point to large-scale environmental issues like climate change, global warming, deforestation, and species extinctions. Respondents said that they learnt of these issues through conversations with parents, documentary screenings and other forms of digital media. However, fewer respondents were able to report any changes in nature and the environment in their immediate surroundings. Those who do mention changes in their immediate surroundings refer to the impacts of COVID-19, newer construction and tree felling in their areas. “Can I write about Cauvery water?”, asks a respondent in a government school in the city. She explains that her area's water is ‘hard’ as it is sourced from a borewell; the water supply is irregular, but they might be getting a supply of water from the river before the state elections the next year. ‘Nature’ as an entity that is in need of saving, protecting and preserving emerged during research activities with children in conversations about the environment. For most children, however, this abstraction of the ‘nature’ that needs saving exists further away from home. Suman, from a private CBSE school, recalls the devastating images of the wildfire that spread across Australia. Her classmate Nihal worries that the Amazon is being torn apart. Akhila who studies in a private international school mentions that thinking about global warming makes her feel anxious about the future:

“It pops into my head sometimes, and then I end up thinking about it a lot. Whatever pops into my head, I end up thinking about it a lot. I don’t like that it is happening, it makes me worry.”

Few children spoke of these issues in connection to their immediate physical environment. David Sobel (1996) argues that this brand of thinking is a result of ‘premature abstraction’ – teaching in abstractions at an early stage that builds an aversion towards the subject matter. By consuming information about ecological issues and the natural world through these abstractions, children are likely to develop ‘ecophobia’; which will have the consequence of cultivating a sense of despair and hopelessness. Sobel (1996) argues that ‘ecophobia’ can be only countered through ‘ecophilia’ – by responding to and channelling children’s biological urges to connect with the natural world. This involves giving children the space to explore and understand the natural world, and responsible adults aiding children during this exploration. Citizen science and nature learning initiatives such as nature camps and walks attempt to bridge this gap – introducing children to the natural world around them, in the city and the outskirts.



*Figure 2: Photograph taken by Akhila, Age 10 at a nature camp*

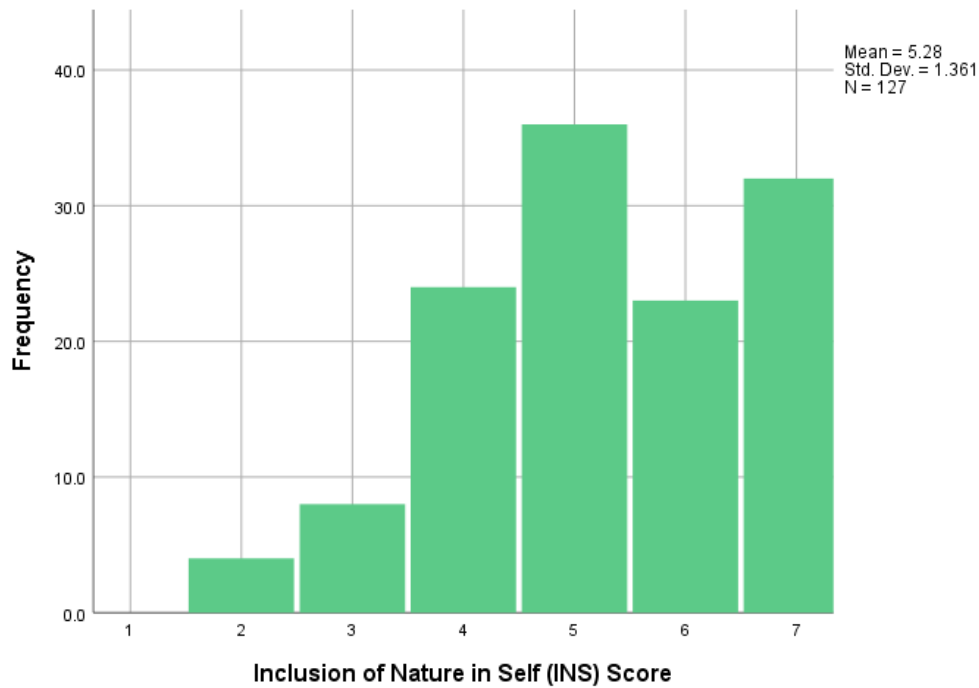
Akhila journals a moment from her nature camp:

“The geese went in one single line (I know, it’s odd, right?), and this one goose with some brown-ish patterns on his feathers seemed to be leading the group. And that’s when I had the theory – this was a goose school, and the brown-feathered one was the teacher!”

Sobel (1996) argues that countering ‘ecophobia’ requires a shift from the ‘rainforest curricula’ through which children consume a certain faraway ‘nature’ without connecting to their immediate surroundings. Respondents who were unable to report changes in ‘nature’ around them, however, were not necessarily entirely ‘disconnected’ from their surroundings. They spoke of changes in their play spaces, the routes that they take and the homes in which they live. During a focus group discussion, a group of children explained in great detail the dynamics of dogs in the neighbourhood responding to new construction sites appearing around them. But the abstraction of ‘nature’ which children consume is not necessarily congruent with the natures that they encounter and are interested in. And this is not necessarily congruent with what a ‘natural surrounding’ is often imagined as – asking the question ‘what does it mean to *know* nature/*connect to* nature’?

The Inclusion of Self in Nature Scale or INS Scale developed by Shultz (2004) was employed in the questionnaire survey (attached in Appendix) to assess whether children perceive themselves as part of ‘nature’, or as separate from it. The INS is a single-item seven-point graded scale. It consists of two circles that overlap varyingly; one represents the ‘self’, and the other represents ‘nature’. The continuum ranges from complete separation to complete integration. Participants selected a point on the continuum that best represents their relationship with nature. Of the 127 respondents, no respondents indicated complete separation and a small percentage (8.6%) had a score of 2 and 3. A majority of respondents (56.7%) fell within the mid-range of the INS Scale and 22.9% of respondents reported the highest level of inclusion – indicating that they feel they are fully integrated with nature. This presents a view at scale of how far children include themselves within the abstraction of ‘nature’. This instrument has been useful in understanding shifts in how children relate to ‘nature’ pre and post particular experiences; with it being used in the assessment of

environmental education programs and nature activities (Salazar, Ramakrishna, et al., 2021). However, with 'nature' being a term that is laden with multiple meanings and one that is continually shifting in context, it is important to understand what natures children interact with and what relationships children have with these natures.



*Figure 3: Respondents' INS Score Distribution*

Poorva explains a photograph that she has taken of a chapter in her textbook titled 'Weather, Climate and Animal Adaptations':

"This, that day, I was studying. And it wasn't really interesting, so I took this photo. Because I don't like it at all. This is science, I mean biology. I like biology but I don't like this chapter. This was after 'nutrition in plants'. I really don't like 'nutrition in plants'. It is really not nice. There are only activities, and we have to write them down, that's why I don't like it. I did read it, because I can't not read it."

Poorva is asked if she finds the content in her biology textbook relatable to her everyday life. She replies:

“Sometimes I will be imagining how it will be in real life and all of that, but sometimes I just think ‘who will sit and imagine’, and then I just read it without thinking.”

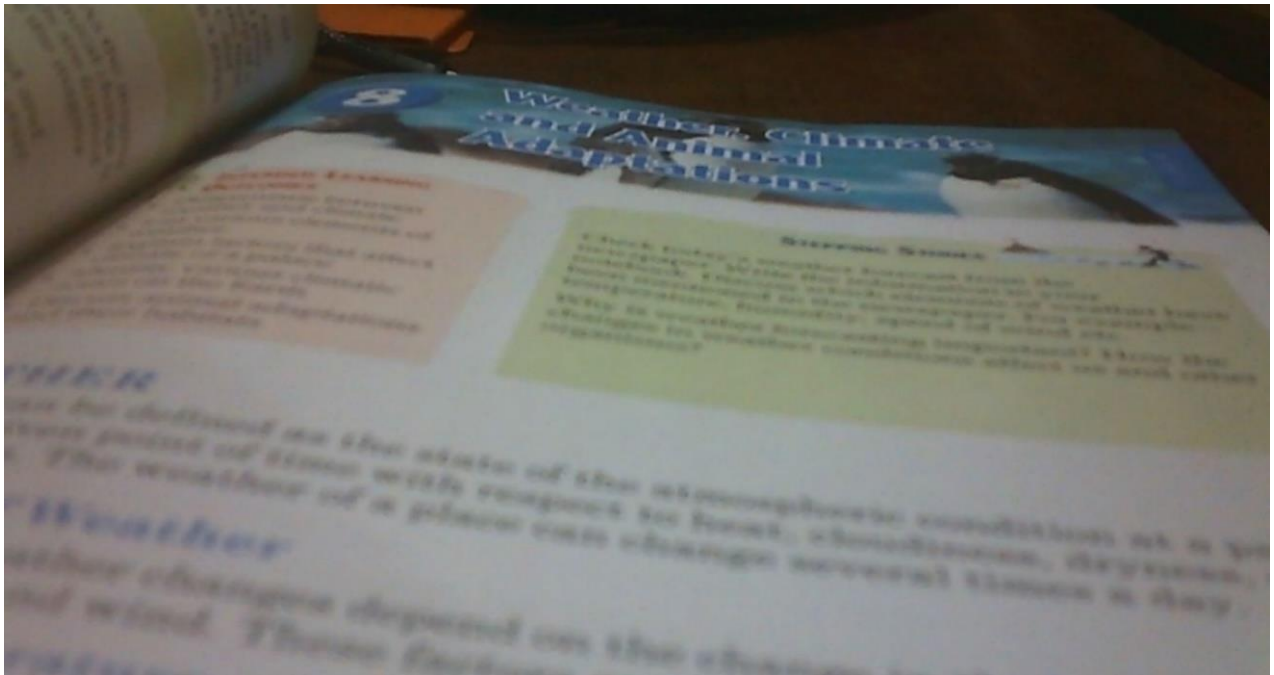


Figure 4: Photograph taken by Poorva. Age 12. A chapter in a textbook. Photovoice

Spaces such as the school where formal knowledge is transacted play a big role in what many children understand ‘nature’ to be. School learning was cited by several respondents as being instrumental in how they learn about ‘nature’ – through subjects such as biology and geography. But children’s learning experiences extend well beyond the classroom; each travelling through varied pathways in learning about ‘nature’. Respondents also cited digital media, nature camps and excursions, exploring and observing, and communication with companions (such as parents, friends and even pets) as ways in which they learn about ‘nature’. Even in schools where ‘nature’ takes a pedagogical form, children encounter contradictory conceptualisations of ‘nature’. A group of four students in an alternative school setting where they spend copious amounts of time outside of conventional classroom walls spoke about how their learning happened ‘in nature’; but, at the same time, alluded to a distinct separation between their existences and nature – speaking of what is ‘natural’ and what is ‘artificial’ (about the materials around them), and of other spatial categories in oppositional terms such as ‘nature’ and the ‘city’.



Children’s everyday lives shape how they understand ‘nature’, and what natures they relate to. Concepts such as ‘biophilia’ and ‘ecophilia’ have a strong social commitment to broadening children’s knowledge of nature and fostering children’s sensory relationships with nature; however, these concepts can be theoretically limiting when understanding the complex social, cultural, and technological factors that shape the natures that urban children interact with, as well as how these children experience and perceive these natures.

“Observing in my garden, the internet”	“Forests”
“I have read books and seen movies on nature's wildlife and beauty”	“The easiest way to learn about nature is to go outside with a book about nature”
“Geography, GLP, Books, Articles”	“Everywhere (school, books, friends)”
“School and home”	“Staring at animals, plants”
“Camps, my village etc.,	“Science”
“I don't learn about nature but I feel nature”	“Watching, hearing, etc.,”
“A few different ways that I learn about nature are from books and nature trails”	“Looking at it, learning how to identify different things in nature”
“We can watch documentaries, read books or actually go out into nature”	“In biology; when my mother is talking about her garden”
“I learn about nature by watching documentaries and by my pets and plants”	“School and staying with 'nature' for a long time”
“Go for a lonely trip to forests and a peaceful place”	“School, home, friends, neighbours, movie and from reading books”
“Biology”	“Biology, Chemistry and Physics”
“Talking, Drawing and Understanding”	“A book, school and a youtube video”
“Schools, walking outside”	“Through youtube videos”
“Everywhere”	“Science, Exploration”
“In biology class”	“Different ways I learn about nature are: my mom gardens and tells me few things and at school”

*Figure 5: What are the different ways in which you learn about nature?”*

A group of twenty students from three grade sections have gathered in a classroom to participate in the research project. They have arranged themselves in a large circle and are seated on the floor filling out the questionnaire. A moves around within this circle speaking to the participants and answering any queries that they might have. A

few minutes in, a cackle pierces through the air of the classroom followed by plenty of chatter and giggles from one arc of the circle:

“He told me that he will write about his favourite animal. It is a cow.”

“Why, uncle? Can’t I write cow?”

A: “Of course, you can write about cows. Everyone can have different favourite animals, and that’s okay.”



*Figure 6: Participants take photographs of the dogs in their lives. Photovoice.*

When children were asked about their favourite animals, many spoke of pets that they have had personal relationships with. Companion animals like dogs and cats are not conventionally understood to be a part of the ‘natural world’ that children are imagined to be (dis)connected to; as domestic or domesticated animals, they are imagined to be leaning towards the realm of culture. When going through the questionnaire survey, a query was raised by some participants if they could include their pets when counting their family members. Speaking about their favourite animals, some children expressed fondness for geographically distant animals that

they may have encountered once while travelling. Some others mentioned animals that they may never encounter in their physical environments. These relationships, although mediated through virtual worlds, shape children's perceptions and contribute to their ideas about the natural world. The 'digital' animals that respondents showed enthusiasm for were largely charismatic species such as cheetahs, dolphins, giraffes and pandas; Jalais (2008) terms these animals 'cosmopolitan animals' for their universal popularity. Children's nature experiences extend into virtual spaces — blurring the lines between physical and digital realities as stark oppositional categories. The virtual world is often seen as disembodied and distant, in contrast to the embodied 'real' world; but these 'worlds' are not unconnected and can be mutually constituted (Valentine & Holloway, 2002). Speaking about his experiences with snakes, Jagdish, Age 12., recalls coming across a red sand boa:

J: "I came across a red sand boa. The only snake that long is a reticulated python, maybe a Titanoboa.. these are extinct snakes that could grow up to 42 feet, and could have killed a t-rex."

A: "What would you do if you came across a Titanaboa?"

J: "I would hug it. They'll be cute. That's just my opinion."

Children forming affective relationships with both physically proximate companion animals and certain animals that they have encountered through their digital presences reveal how relationships with 'nature' are socially constructed. It troubles the idea that children can only 'connect' to nature through embodied experiences in a 'wild' nature; children interact with many natures around them as biosocial beings, occupying spaces both virtual and physical. The next sub-section will further explore the spatial imaginaries of nature and the urban; it will discuss where children locate 'nature' to be and what makes a child 'urban'.

"Dogs. I see dogs everyday and they are really cute, so I love them."

"Cheetah. Looks so cool really, is the fastest."

"Pandas. I have only seen photographs."

"Cows"

"Dogs. I have three dogs at home and they are my favourite because they are loyal."

"My favourite animal is a dog and I see them in my apartment and they are my favourite because they are loyal."

"Dolphins. I have seen them in movies and they always look so magical."

"Dogs. I have one in my house and they are my favourite animal because they are always so energetic and cute and fun to play with."

"Wagner because she is very playful and excited to see me."

"My favourite animal is a koala. They remind me of myself because we both are lazy. I have seen them in Australia."

"Sharks. I have seen them in TV but not met them in real."

"Wolf. I have seen it but I would not like to share why."

"I have seen it in my native village. It is a cat. These are my favourite animal"

"Dog."

"Dogs. I see dogs every day. I like dogs because they are loyal"

"Wolves. I haven't seen them in real life. I like them because of their true hearts and loyalty to their pack."

"I love dogs. Especially shitzus. I love shitzus because they are so cute. My neighbour has a shitzu which is so so cute"

"I love any type of dog. Wolf. Hyena, fox or even a dog. I like them because they are really cute. I have never seen a wild dog before."

"Fish, because I have many types and a huge pond of them and I am allergic to everything with fur."

"I cannot decide between dog, owl and deer because I think dogs are really loyal, owls because they are majestic and are seen as wise since they are symbol of the goddess Athena and deers since they are so calm and beautiful and are the symbol of Artmis"

*Figure 7: "Do you have a favourite animal? If yes, which animal is it and where have you seen them?"*

### 3.1.2 where is *nature*?

The 'urban' sits both precariously and robustly in the spatial imaginaries of nature. As populations have become increasingly concentrated within cities, concerns about a loss of connection to nature have been echoed within the field of environmental psychology. Cities are understood to be human-dominated landscapes, where certain forms of 'nature' have often been sidelined, excluded, and pushed to the fringes in their emergence. The extractive logics of cities have seen rapid depletion of natural resources and the disappearance of 'wild' green spaces. At the same time, the fabric of a city is also woven through environmental flows and processes (Robbins, 2020); the reshaping of 'nature' into new, emergent forms and its entangling with human practices is essential to the production of urban space. Within the child and nature discourse, the urban has been conceptualised to be the antithesis of 'nature' — representing impoverished natures and degraded landscapes that are unsuitable for children. This has been represented in opposition to a more 'natural' countryside. Jones (1999) suggests that the spatial imaginary of the 'countryside' as a surrogate nature is characterized by its 'innocence', like children and nature, making the image of a 'natural' idyllic countryside childhood a powerful one. The dialectical relationship between 'urban' and 'nature' is complemented by that of the 'urban' and the 'rural' — Cronon (1992) employing a constructivist approach, argues that the idea of the 'countryside' cannot exist without the urban. Of the many categories applied to place nature, rural/urban distinctions were also consistently invoked by participants in our study. They often referred to the village as a place where *nature* exists in abundance. Positive emotions associated with nature, such as 'peace' and 'calm' were also placed within the spatial imaginary of the rural. A group of students in a school listen to the explanation of what the research project intends to do; they are taken through the rationale and focus of the study — the 'what's, the 'why's and the 'who's. Upon hearing that the study focuses on children in Bengaluru, a boy quips,

“But what about the children in villages? Why aren't you studying them as well?” Before his question can be answered, he goes on to say, “Oh, maybe because they are already in nature.”

“I think children in villages are happier because it is less noisy and there is nature everywhere”,

remarks Urvashi when followed up with a question about how children in villages are different from them. The ‘urban’ in these narratives was conceptualised in negation of certain qualities that were imagined as being present in rural spaces; building from the idea that villages are less human-dominated and more nature-abundant. For many children, this relationship with ‘village’ was not constructed solely through the imagination of the rural idyll; these relationships were corporeal – having forged affective and sensory relationships with various natures in the ‘village’. Embodied experiences in the village were observed to form lasting relationships with nature and the nonhuman world. Therefore, urban childhoods are not experienced within a singular fixed geographical location; in addition, the relationship between emplacement and mobility needs to be considered as well (Gardner & Mand, 2012). Children articulating these experiences in Kannada ((the language spoken predominantly in the state of Karnataka) referred to their village as *ooru*. The term refers to a ‘native place’, or a place where they are ‘originally’ from. Even children who have lived in the city all their lives, but have close family members who still live in their ‘native place’, often referred to the village/town that forms this ‘native place’ as being their *ooru*. The *ooru* in these narratives carries notions of identity and belonging; and can be a signifier for where one is ‘originally’ from or ‘belongs’, but also one for the ‘city’ as a less rooted and more transient space. For children who referred to urban Bengaluru as being their ‘*ooru*’, the spatial imaginary of the rural was not associated with the same sense of belonging. The interactions with ‘nature’ that children in the city have are not limited to the natural elements that are within the range of their emplaced existence in the city. Ronith details his love for snakes and his growing understanding of snakes through his experiences in his *ooru* where family members live:

"Once there was a snake on the fan in our *ooru*. I was scared. We were thinking what to do. But my grandfather said, ‘let it be, it will go on its own time’. So, we didn’t do anything and then it went on its own. Good thing we didn’t do anything. In our *ooru*, snakes are important. I just love snakes.

Snakes are amazing. I keep learning about them on TV. I keep watching all of this only all the time.”

Just as Ronith begins talking about the snakes he has seen on television, Harshvardhan interrupts,

“In my...in my...in my village, there was also a big snake. They said it is dangerous. I don’t know in English, uncle. *Nagarahaavu* (cobra) it was. We also didn’t kill it.”

Ronith aids a snake rescue in his school that same week. He identifies the snake to be a non-venomous snake and manages to ward off students and staff from the snake. Snake rescuers were called and the snake was moved to another location. Ronith reflected on the incident and the fact that he had to deal with it quite differently from how his grandfather dealt with it in the village. Relationships with nature forged through embodied and experiential movement in the village do not necessarily translate symmetrically to nature in the city. Sahiba says that she is terrified of cows and does not like them at all. But later on in the conversation, she reveals that she is not scared of all cows:

“The cows in the village are alright. They belong to people.”

Sahiba loves to play with mud in the village. She would also love to contribute to her garden at home and get her hands dirty in the soil. But she is not allowed to by her mother. The soil in the village is ‘safe’; but in the city, it is ‘dangerous’ and ‘unpredictable’ as it could be laden with toxins. The question of safety and hygiene is more pronounced in the city soil. The natures that children interact with, in the city or the village, are not entirely ‘natural’. They are laden with meaning and are composed within socio-spatial contexts. Children’s relationships with the nonhuman world extend beyond their relationship with the abstraction of ‘nature’ – they are also co-produced with the materialities of various urban natures. The next section will engage with these various urban natures; examining how they are webbed into the social lives of children. It will look to capture children’s everyday lives and mobilities, the varied spaces that they inhabit, their interactions with the nonhuman world, and the complex relationships that they share with it.

## 3.2 Accessing and Relating to Nature

### 3.2.1 indoors child/outdoors child

The opening section of this chapter introduced the image of the 'plugged-in child'. It highlighted how the image of children in the city as being tied to their screens, removed from 'nature' and the outdoors is a prominent characterization of urban children within the child and nature discourse (Malone, 2016). Here, this image will be revisited and its relevance examined in relation to the lives of children in urban Bengaluru. It will look at what factors influence the making of an indoors/outdoors child and what spaces children occupy in the outdoors. The narrative that children spend too much time looking at screens is not one that children seem to be strangers to. When children were responding to a question in the survey about how much time they spent looking at their screens each day, several respondents inserted caveats and justifications into their answers. Some respondents raised queries if this included the school work that they are being assigned that enforces the use of screens; explaining that they have been using their screens more since the covid outbreak. Two students were seen to be quarrelling amongst themselves, each claiming that the other was grossly underplaying how much they use their parents' phones. The average reported time spent by respondents engaged with screens in a day was a little over two hours; but, the sample ( $n=134$ ) showed a high amount of variability in screen-use times of respondents ( $SD=105.77$ ). Time spent in front of screens by children was also observed to be a matter of contention in family environments; one parent remarked,

“She is just in front of the screen all day. I keep telling her to go out and spend her free time outside, but she refuses to go”

This does not mean that children are given a free pass to do as they like and move as they like outdoors. Parents showed both dismay about their children spending the majority of their time indoors (“she is just in front of the screen all day”) and worry about where children moved to without being accompanied by them (“I didn't know you were going till there”). Children reported engaging in varied activities indoors — from playing video games and watching television, to playing with their pets, spending time with their families and reading. The sample ( $n=134$ ) did not show any



clear linear relationship between time spent outdoors and time spent on screen — showing a weak negative relationship ( $r=0.065$ ) that is not statistically significant ( $p=0.453$ ). The use of screens indoors did not always result in children spending less time outdoors. In some cases, technological devices were seen to even facilitate children's outdoor mobilities; the perceived safety of being connected to children when they were outdoors through mobile phones allowed children to go further away from home. The image of the 'plugged-in' child symbolizes the technological aspects of urban childhoods in opposition to more 'natural' childhoods spent outdoors; but these less-human/nature-like technologies can be equally involved in the 'relational assemblage of outdoor roaming (Smith & Dunkley, 2018). The issue of the outdoors as becoming increasingly unsafe and as being entirely different from when they were children, however, was a common theme. Many parents expressed sadness and regret over their children not having the kind of access to outdoor play that they grew up having. One parent shared her anxieties about letting her child outside of the apartment complex:

“Recently, I saw a video on WhatsApp about how some men in Bangalore are kidnapping children. Similar to how chain-snatching incidents happen. We have to be very careful.”

Parents are key gatekeepers of their children's mobilities — regulating their ranges and guiding how their children move. They play a pivotal role in establishing children's boundaries and even their modes of movement — whether they cycle or walk by themselves or are accompanied to the places that they want to go to. Parental fears can further children's exclusion from public space and make more spaces predominantly 'adult spaces' (Valentine, 1997). Children were largely seen to operate under the boundaries that were agreeable to their parents but showed the desire to stretch these boundaries (“I wish I could go till there on my own”). Some children stretched these boundaries without the knowledge of their parents to visit places or spend time with company that they felt their parents wouldn't agree to. Apurva, Age 10, whispered as we took a walk through her neighbourhood,

“Actually when I told you I only go till there, I was simply saying because my mom was there. I actually go that side also to meet some school friends.”

Parental feelings and perceptions about how safe/unsafe the outdoors are, how far out their child should be going, how much time they should be spending outdoors and what activities children should be performing outdoors play a pivotal role in how children experience the outdoors. Parental perceptions about the competencies of their children were also seen to influence children’s outdoor activities; parents acknowledged gendered and individualized regulations on their children’s mobilities. Even with highly uneven power relations in the space of the home and how decisions on children’s mobilities are made, these boundaries are not always established unidirectionally; children often negotiate these boundaries with their parents and they shift with time in relation to the child’s age, gender, interests and company. Children’s use of space has been highlighted in previous research as being a product of negotiations with parents (Hart, 1979). Constraints and regulations on children’s outdoor ranges are not only presented by top-down parental imposition; children’s perceptions of how safe/unsafe their surroundings were observed to inform their use of outdoor spaces. Bhagya, Age 10, says that she used to enjoy the outdoors a lot more when they lived in a different neighbourhood — where the roads were wider, the parks were more accessible and the people were ‘friendlier’. But now she describes herself as more of an ‘indoor person’.

“People look at me strangely here whenever I go out, even to buy groceries. I get scared. People look at me like this.”, says Bhagya during an in-depth interview as she widens her eyes and flares her nostrils.

Bhagya’s accounts of the outdoors refer to both the physical and social characteristics of the neighbourhood she now lives in. The becoming of an ‘indoors child’/‘outdoors’ child is dynamic and does not occur in isolation of these characteristics; they strongly inform children’s experiences of the outdoors. The social locations of children — such as their gender, class, caste, and regional identities also play a role in shaping their perceptions of and interactions with the outdoors (Bhuyan, 2022; Den Besten, 2010; Rajan, 2021). Children’s imaginations of the outdoors were seen to be influenced by the

broader narratives of 'place' that permeate society. Parvati, Age 12 explains why she prefers to not be outdoors in her neighbourhood:

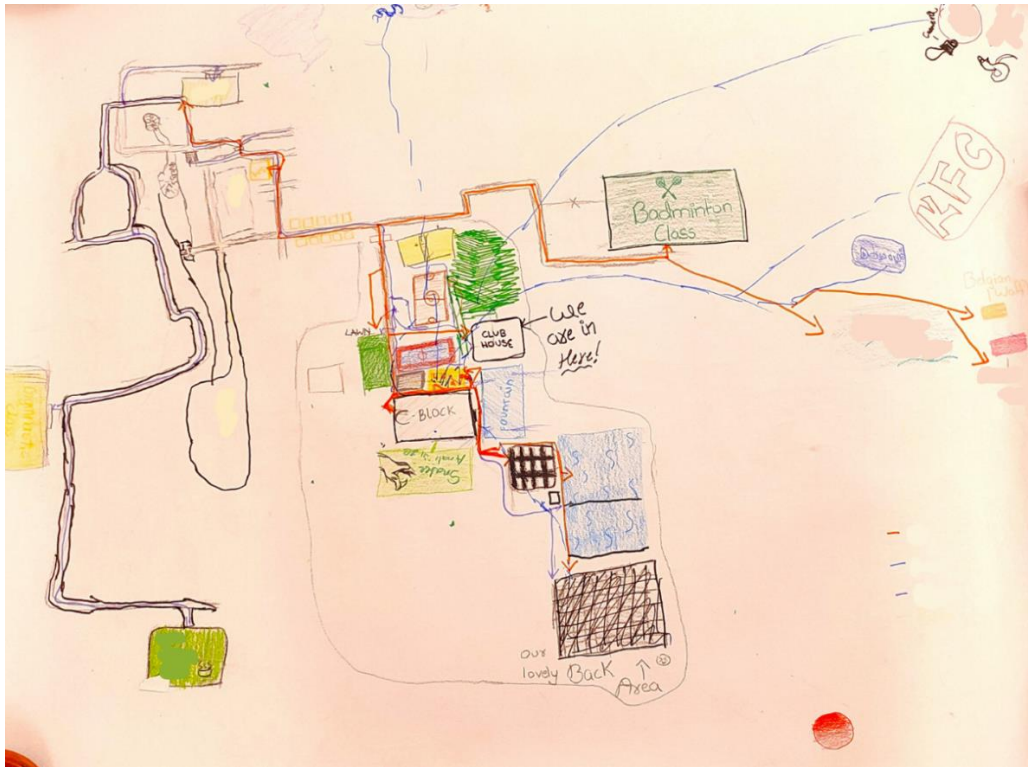
"I don't go outside so much also because it is full of outsiders. They don't speak the language, we don't understand. So, we can't play, I don't know. And this area is full PG PG PG, all houses like that. We need more family people so there will be more children. But some children are like that, their parents also don't let them. They keep them in the house only. Actually there are more dogs than children."

The 'outdoors' as a place is a heterogeneous entity and experiences of the outdoors can vary vastly for different children as they inhabit different spatial and social locations. For Parvati, the idea of 'outsiders' and xenophobic narratives of 'place' intersect with how she perceives and experiences the outdoors. The PGs that Parvati refers to are 'Paying Guest' services — which are boarding and lodging arrangements for students and professionals. The universities around her area are popular among students from outside of Bengaluru. Paying Guest services cater to these students; these services can be profitable economic ventures for house owners, where they either open up a part of their homes for paying guests or lease out the property in its entirety to paying guests and move elsewhere (Bowen, 2015). Many independent houses in Parvati's area have been converted into these PG structures. Socio-political processes and cultural narratives such as those that promote exclusion and fear of 'outsiders' can shape children's understandings and experience of place. It is important to recognize the complex interplay between these processes, narratives and physical spaces that feed into the making of an outdoors/indoors child. Parvati's feelings about her surroundings do not only highlight her fear of 'outsiders', but her own positionality as an 'outsider' in adult-dominated spaces. Accessibility to social spaces where children feel a sense of belonging can be sparse in the city. Children's outdoor play and social environments have often been overlooked and neglected in urban planning in a rapidly urbanising South Asia (Bhuyan, 2022). Even in spaces that exist for the use of children, there are social and material barriers that exclude many. Children's utilization of outdoor spaces varies greatly; they have different uses that they derive from outdoor spaces and perform different activities that define their

interactions with their environments. 'Play' is a critical aspect of children's use of outdoor spaces; numerous studies have documented that opportunities for outdoor play have deteriorated significantly over the past decades fueling the slow disappearance of the 'outdoor' child (Horton, 2016). Outdoor play activities can involve both organized, structured forms of play such as sports, or more unstructured and spontaneous play. Children who live outdoor lives where their activities are consigned to specific places of 'playing' and 'learning' were seen to operate more rigidly under parental supervision and other forms of surveillance. These activities are tied by a string of time slots – where children have to be at a specific place at a specific time of the day to perform a specific activity, normally under supervision. Rohan, Age 12, has several complaints about his parents' anxieties and the strictness with which they regulate his activities. But he appreciates his parents agreeing to take him to these classes even if they were far away. Speaking about his basketball coaching, he says,

“It is the best basketball class. Like he is the best coach in Bangalore. But I don't know where it is, I think it is kind of far. Uuuh... I don't really know which way it is. My mother takes me there.”

For Rohan, his school, basketball coaching and other places where he pursues his and his parents' interests are islands in the city. He has everyday experiences in these places; but, being driven to these places by adult family members, the in-between spaces are only represented through 'time' and do not form a physical environment in his life. Figure 7 illustrates the difference in how Rohan (blue line) moves in comparison to his friends (each represented by a coloured line) who live within the same complex; while Rohan's lines connect directly to his islands of activity, the others show more intricate movement between theirs. Children who commute to these places of activity on their own have a more physical relationship with these in-between spaces. In addition, they can be seen to have more room to move freely and explore these in-between spaces during this time. Zeiher (2002) argues that under 'insularised' conditions such as these, children are pushed to reflect on their personal interests and explore them within these spaces – organizing their time around their schedules and others', and finding ways to pursue these interests.



*Figure 8: Participants in a group discussion map their spaces*

Children residing in closed gated communities or apartment complexes may have distinct needs and experiences compared to those living in independent housing that is embedded in open public space – the context of children’s living environments influences how they use outdoor spaces, and what these outdoor spaces mean to them. While the street for this group of four children who live in a large apartment complex, as seen in Figure 8, is an important connector to their islands of activity, it is not a space where they loiter or actively spend time. But the street also forms a dwelling space for many – a space where they have social lives, loiter, and play. The street has been considered as a ‘third space’ in children’s geographies; a space that belongs to neither adult nor child where children can develop their own identities and ‘play out their social lives’ (Matthews et al., 2000). Play on the street does not only involve unstructured and spontaneous play; children even indulge in organized sports such as cricket and football on the street. The ‘street’ does not only represent an open space where children can carry out a fixed activity; it is an active participant in many children’s lives with social characteristics of its own. One participant comments on their use of particular roads over others:

“We don’t play there because those people don’t have children, so they don’t understand.”

The physical characteristics of roads that children choose to play on also give certain affordances that allow for more enjoyable play over others. Even play spaces that have physically similar designs and are in the same vicinity can be ‘experienced, felt, used and situated in sometimes profoundly different ways’ (Horton & Kraftl, 2018b). A group of children who play cricket on a road in a neighbourhood was observed to move along the same road and occupy a slightly different part of it each day. For them, this kept things interesting as they had to navigate different playing conditions each day. They had to play in a way so as to prevent the ball from going into different houses. These houses had differing social dynamics. The physical structure of the road, in itself, also gave different affordances such as the way in which the ball would bounce, the way they had to position themselves etc., Looking at the affordances of the spaces that children occupy is useful in understanding children’s relationships with them; it does not specifically refer to the characteristics of the space (such as the street), or the child, but rather as something that emerges between them (Kyttä et al., 2018). This includes the social, physical, and affective relations that act in the production of the space.

In children’s narratives about the spaces that they use in their surroundings, they alluded to both the physical and social elements that co-produce them. Studies have shown that play-friendly neighbourhoods can be more critical to facilitating children’s access to outdoor play than particularly developing formal play spaces (Visser & Aalst, 2022). In Section 3.1.1, children’s inability to report changes in ‘nature’ in their immediate surroundings was discussed; this, however, does not mean that children are not attuned to the many minute changes in their everyday lives. During interviews and discussions, children often pointed out these micro-changes that affect their everyday lives. Aishwarya, Age 8, struggled to explain a change in her school that bothered her. After multiple attempts, she manages to convey that the flooring material in her school premises has changed,

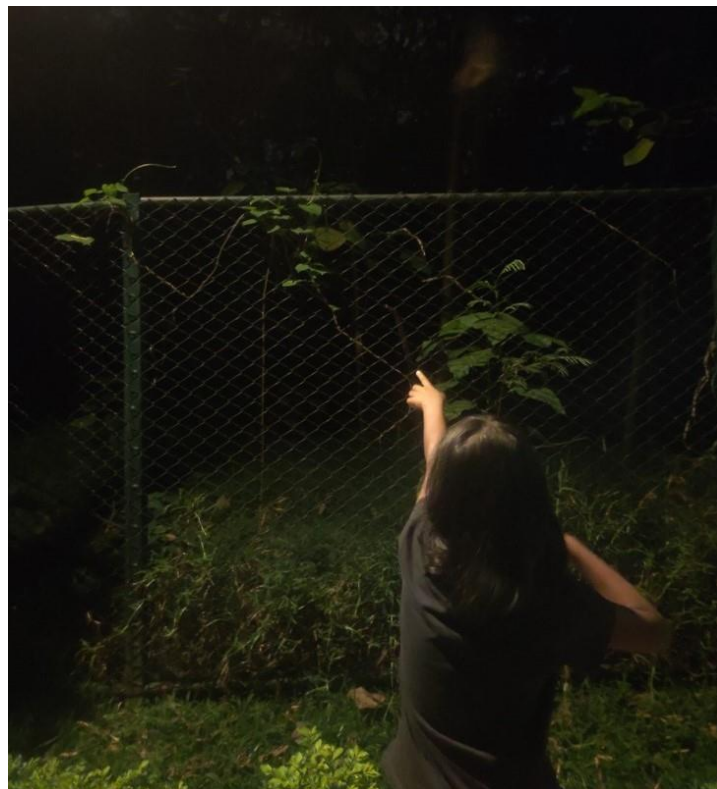
“It pains. Um um...Before, it was like a beach. It smelled like water and it was blue and it was brown around.”

A group of children in a mapping exercise spoke about how the flooring of one of the segments of their apartments has changed — becoming rougher and less suitable for play. They speculated that it could be to prevent them from playing there as one of the residents once had a noise complaint. An even more pertinent concern for them was the transformation of a largely unattended area of the apartment into a visitor's car park, where they played a lot of games. Children were seen to often subvert the imagination of top-down planning of spaces; this could be seen in the ways in which streets are used for play in neighbourhoods or even in apartment complexes where there is a fixed designation of places. Even when not demonstrating extensive spatial knowledge of their surroundings, many children were seen to derive emplaced meaning from certain outdoor spaces that they interacted with.

This sub-section looked to explore the nuances in how children use outdoor spaces and what goes into the making of an 'indoor/outdoor' child. It highlighted the 'outdoors' as a heterogeneous entity that children have varied experiences and imaginations of, as they occupy different spatial and social locations. It also examined children as a group undergoing varying degrees and forms of socio-spatial marginalization — where their 'belonging' in the outdoors can be a matter of contestation. The next two sub-sections will engage with how nature spaces are positioned in their lifeworlds from these points of *difference*, exploring children's relationships with these spaces and the other-than-human world.

### 3.2.2 parks, lakes, and other green spaces in children's lives

Meena, Age 10, walks by the fence that separates her from the 'forest'. She has a bunch of questions that she is looking to get answers to — mostly about A's personal life. "Stop", her mother says, putting her arm across Meena and pointing out to two critters; one perched on the fence, the other on a branch of a tree that stands just behind it. "What are they?", asks Meena. "I think they're baby owls", her mother replies. Meena inches forward, even as her mother subtly and quietly discourages her. She asks her mother for the phone to take a picture. But when it is in her hand, she doesn't do much with it. Her eyes are locked in with the owlet on the fence. The owlet tilts its head, and she responds with a tilt of her own. Meena imitates every movement but proceeds with caution. With time, caution withers slowly. Her movements become more pronounced and so does her voice as she mimics the owlet. Recognising this, the owlet quickly hops off the fence and flies into the 'forest'. Meena looks at her mother in disappointment and says, "I'm sad. I shouldn't have done that; I scared it and it had to go away. Now it's gone into the jungle. It won't come back."



*Figure 9: Meena interacts with an owl on 'the other side of the fence'. Photographed by the author.*



Meena says that the closest place she can find nature is in the ‘forest on the other side of the fence’. The ‘forest’ is a relatively densely wooded area in the campus space of an educational institution to which she lives in close proximity — it is a place that she is scared of. Meena is scared of the snakes that inhabit the ‘forest’. Her mother doesn’t like snakes either; but she likes looking at insects, so Meena takes walks to the other side of the fence with her mother occasionally. The benefits of spending time in greenspaces have been extensively researched, showing a wide range of social and psychological benefits (Dopko et al., 2019). While for Meena the greenspace described is nearby to where she lives, this is not the case for many children. Access to nature spaces has historically featured in urban planning projects in the context of adults, but not children (Chawla, 2015). As discussed earlier, children, as a group, face different social and material barriers to spaces in the outdoors — these barriers persist even with access to nature spaces, although not identically. Furthermore, proximity can be shaped by other factors — studies have shown that greenspaces can be distributed unevenly in a city, aligning with socio-economic indicators and depriving lower-income groups of these spaces (Ferguson et al., 2018; Venter et al., 2020). Even in cities where people belonging to lower socio-economic groups are physically closer to greenspaces, these spaces might be less-frequented by them (Vaughan et al., 2018) — showing that proximity does not always translate to the use of greenspaces. The ecological manifestations of socio-economic inequalities can vary with the developmental histories of cities; but these linkages are important to explore to understand how biodiversity is distributed in cities (Kuras et al., 2020).

Bengaluru, a growing urban settlement since the 16<sup>th</sup> century has been called the ‘Garden City’ — a framing that references the greening of the city under various administrative powers (Jaganmohan et al., 2018). The distribution of greenspaces in Bengaluru are closely tied to the social, cultural and political histories of the city (Nagendra, 2016). It is not spatially homogeneous — with greenspaces being limited in their distribution in and around informal settlements, and in their accessibility to people who live in informal settlements (Gopal & Nagendra, 2014). The core of the city with its more permanent built-up area is stable in its vegetational coverage as opposed to the periphery which has been going under rapid urbanisation; whereas,

public institutions like universities and defense establishments that have emerged from the city's colonial history have harboured stable greenspaces over several decades (Nagendra et al., 2012). In addition, the city center has also fostered large public parks that were seeded in the 18<sup>th</sup> century; however, more recent developments have seen greenspaces in other parts of the city being consistently built over for development activities, albeit small neighbourhood parks have emerged in many parts (Nagendra & Gopal, 2011; T.R. & Devaiah, 2022). Publicly accessible parks have been remarked to be crucial avenues through which children can experience the 'natural world' (Madge, 1997).

"You can find nature in Cubbon Park. The trees are jumbongous. I wish they don't cut it down" – A respondent speaks of a landmark park located in a central area of the city while filling out the questionnaire survey

Bengaluru has historically been dependent on a wide network of natural and manmade waterbodies for its drinking water; these lakes or tanks were rendered obsolete for this purpose when drinking water began to be sourced primarily from the Cauvery River (D'Souza & Nagendra, 2011). These areas have also been used, and several continue to be used for other purposes such as the grazing of cattle and fishing but have come in friction with other cultural and aesthetic uses. While typically managed by the surrounding villages as commons, they have now come under the ambit of multiple government departments (Nagendra & Ostrom, 2014). There are currently 167 lakes that come under the purview of the Bruhat Bengaluru Mahanagara Palike – the municipal corporation body of Bengaluru (BBMP, 2023). Many of these lakes and tanks have now become spaces used for urban recreation – the waterbodies and the surrounding lands constitute important 'nature spaces' in Bengaluru, where urban residents can take jogs or walks and (re)/connect to the natural world (Nagendra, 2010). Speaking about memorable experiences that they have had 'in nature', respondents mentioned nature spaces like public parks and lakes where 'nature' can be found in relatively more abundance. However, they did not feature as much in their everyday lives. For many, these were spaces to 'go to' and visit with their families but not where they engage with everyday play and dwelling; except for those who play games like cricket in areas adjacent to lakes.

Jagdish: “Oh, can I draw the nearby lake? I love going to the lake.”

Shahid: “I love it too. I have drawn it here, see.”

A: “Oh, do you two go there often?”

Jagdish: “Sometimes, but we have never been there together.

Shahid: “We only go there with the family”

- Conversation during a group mapping exercise

Jagdish, Age 12, especially loves going to the nearby lake to look out for snakes — he has a deep appreciation for snakes and enjoys collecting snake skins. These ‘nature spaces’ provide ample opportunities to develop and pursue interests such as Jagdish’s; but also present nature’s dangers. Parental fear of getting bitten by snakes and other fears such as stranger danger are compounded within these urban nature spaces. Other issues of access such as distance, timings, and entry fees were also reported by respondents — pointing towards socio-economic barriers in using these spaces. Access to nature spaces have been suggested as an important parameter towards measuring the liveability of cities (Wolff & Haase, 2019); but attention needs to be paid to the children’s experiences of these spaces. Urban nature spaces are constituted by various social and material entities — from accessibility, emotional associations and governance structures to nonhuman material entities, both organic and inorganic. (Waitt & Knobel, 2018) They act in how children relate to and use these spaces. Kahn and Weiss (2017) suggest that interactions with spaces such as these are crucial as they present opportunities to engage with a relatively ‘bigger’ nature. But an active engagement with even other relatively ‘smaller’ natures can inspire nature-learning (Wake, 2007); these small natures such as gardens form a part of many children’s lives in Bengaluru. Sudeeksha, Age 9 has taken to gardening with her mother. During an in-depth interview, she mentions an argument that she has had with her mother:

“I planted a chewing gum in the garden. My mother said that if I swallow chewing gum, it will grow in my stomach and become big. I wanted to see if it will grow, so I planted it.”

Domestic gardens have been noted to act as spaces of refuge for biodiversity in urban spaces, drawing in a variety of wild species; their presence and form are, however, mediated by a range of factors such as space available and housing type (Jaganmohan

et al., 2012). Ronith, who lives in an independent house in a neighbourhood has a small yard with a garden, but wishes there was room to grow more plants:

“There is no space here, uncle. I am finding ways to make more space to grow vegetables since I came from my *ooru* (village). It is nice to eat what vegetables are growing at home.”

Access to gardens, public parks, lakes, and other ‘greenspaces’ have been observed to have positive linkages with children’s connections to nature, pro-environmental behaviours such as environmental stewardship, and indicators of psychological and social well-being (Chawla, 2015). The distribution of these spaces in the city is not homogeneous, and neither is the accessibility to these spaces for different children. Nature spaces that are open to the public were observed to be places of everyday dwelling for few children, and largely constituted spaces that are for occasional visitation under the supervision of adult family members. The benefits of nature play, or outdoor play in spaces of ‘nature’, have been widely researched — the wide range of benefits of which have lent to the construction of access to nature as being a ‘need’ that has to be met in children’s lives. Woodhead (1997) suggests that ‘needs’ are culturally constructed and the usage of the term largely falls under four categories — where, it describes children’s psychological nature and its essential requirements; as knowledge inferred from the detrimental consequences of having/not having specific childhood experiences; through judgement about which experiences adhere to cultural norms; and, as prescription about which experiences should be valued in society. The construction of access to nature and nature play as a ‘need’ relates to all four categories.

Research has shown that outdoor play in natural environments has benefits that percolate into many aspects of children’s lives — through affordances that allow for exploration, cultivating a sense of awe and wonder, fostering a sense of independence, creating a stronger sense of place and belonging, facilitating environmental learning and stewardship, and improving children’s subjective well-being (Dowdell et al., 2011; Horton, 2016). However, the concern of inaccessibility to these spaces echoed through the idea of the ‘nature-deficit’ child (Louv, 2006), only refers to the deficiency of specific forms of ‘nature’ (Malone, 2016) and in relation to a specific idea of ‘childhood’

(Horton, 2016). In respondents' narratives of their surroundings, lakes, parks, and gardens are designated spaces where nature can be found in abundance. While these spaces were observed to not be a part of many children's everyday play and dwelling, all nature was not necessarily absent from their lives. Other urban natures were seen to not only feature in their everyday lives but be active participants that shape their lives. Relationships with these natures can be of compassion, care, and kinship, but can also be undesirable and disruptive in children's lives. The next sub-sections will look at what these *other* natures are and how they are enlivened in children's imaginings of space, and explore the ways in which the nonhuman world is *already* woven into their social lives.

### 3.2.3 where *else* is nature in children's imaginings of space

A commonplace term that was used in conversations with children to learn about these experiences and perceptions of their localities was 'area'; a term that is used verbatim even in conversational Kannada. This term can refer to specific demarcations under planning imaginations that refer to specific named localities such as gated colonies, neighbourhoods, or industrial areas. But its use often constitutes less formal boundaries — with the ascribed meanings shifting with particular individuals or groups and in relation to a sense of belonging and ownership. The latter was employed to invoke children's imaginations of their surroundings, and learn what spaces they use and relate to in their localities. Children's experiences and perceptions of their localities are diverse and multifaceted. As discussed in the previous subsections, children occupy varying spatial and social locations; urban childhoods, like the urban, are heterogeneous. During group discussions, children were asked to map their areas by outlining their mobilities, capturing their outdoor activities, and depicting the places that mean something to them. In allowing children to construct their 'areas', a multitude of imaginations emerged. Some children had large detailed drawings of their areas, while others' consisted of only a few streets or the vicinity of their apartment complex. Greenspaces such as parks and lakes featured in their areas as places they sometimes visit; but these were not the only nature spaces that featured in children's maps. Other nature spaces such as wooded areas alongside a temple, empty plots that are unmanaged, and other green spaces were spoken of; while they were not often places that children physically spent time in as they were associated with emotions such as fear and properties such as danger or unpredictability, they were sometimes enlivened through other imaginings of space. Akhila, Age 12, loves to think about dragons. She has been reading books about them for a long time now and speaks fondly about them. When asked if she feels a sense of affection for them, she lets out a meek smile and replies:

"Um...Yes, I kind of do. I mean I literally imagine that they all live in the bamboo forest next door right next to the apartment. I mean I don't know if it is big enough to fit all of them."

Akhila does not visit the bamboo forest much as it gets ‘really creepy’ and ‘dark’; but this space is not absent in her imagination of her ‘area’ — it is instead enlivened through the fantastical beings that she imagines as residing here. Änggård (2010) suggests that the dimension of ‘nature’ that is less regimented and wild lends to the construction of ‘nature’ as also being a space for imagination and excitement; these ideas of an enchanted ‘nature’ could be seen to make room for Akhila’s dragons. This dimension could also be observed in children’s games — as wild animals like lions and wolves appeared in variations of catch and tag games. These variations were not entirely removed from children’s everyday realities; one group of children played a similar game with an added dimension of a risk of ‘infection’ from COVID-19. Sudeeksha, Age 9, likes to take her dolls to the garden and to a ‘green circle’ in her apartment complex. When asked about the reason why she likes doing so, she says:

“I don’t know, it’s nice. My Barbies like to go camping in nature, but they also do other things. Like they also go to the airport.”



*Figure 10: Akhila, Age 12 draws her pet dog being carried by one of her ‘imaginary’ dragons.*

In speaking about the places she likes to go to in her apartment complex, Sudeeksha excitedly mentions her favourite as being the terrace. Immediately, she realises that she has slipped up and that her father doesn’t know about her use of the terrace. She

grits her teeth and takes a peek at him hoping he hasn't heard her. But he has.

Expressing concern, he gently asks:

“Oh, you go to the terrace?”

“Don't worry, we are allowed to go there”

Sudeeksha doesn't specify who has *allowed* her to go there and quickly moves on to speak about what she likes about the terrace:

“There is a tree that bends over the terrace. Like this (gesturing the shape of the tree). So there is always many leaves together in the corner and my friend is smaller than me so she goes through and sticks her head out. It is very funny. We can also run around. There is so much space, we can see the sky.”

Spaces with nature material afforded room for these imaginative presences as well as for physical play. The unpredictability of nature as a place is also associated with 'danger', and was seen to be closely tied with children's geographies of fear; this included the spectral geographies of haunting and ghosts in children's stories. These stories found a place in these sites. “There is an old woman that lives there. If you disturb her no uncle, she will disturb you”, warns Ravi, speaking about the line of empty plots in his otherwise densely housed neighbourhood. On engaging with children's ghost stories that were situated in these sites, particular qualities of these sites emerged — such as the absence of people, or the presence of particular groups of people (“men”, “big children”) near these sites, certain activities near these sites (“factory workers smoking”, “construction”) or the presence of certain undesirable natures (“snakes”, “cockroaches”, “rats”) within. In apartment complexes, several children cited the public toilet as a place where undesirable natures as well as supernatural beings lived. “Outsiders use the toilet, so we are not allowed to use it”, explained one child. These troubling narratives also highlight the socio-material processes involved in the production of these *other* nature spaces, even within more regimented and controlled spaces like apartment complexes.





*Figure 11: A participant, Age 12, has her friend represent the ghost stories in their lives. Photovoice.*

Wilson (1984) suggests that fear of particular elements of nature such as snakes is an evolutionary response; and that it pays to move beyond ordinary 'fear' to learn more about them and emotionally engage with them in other ways. Exposure to these natures, however, is not always conducive to the better well-being of all children. Rupa, age 10, lives in an informal settlement close to a gated colony where her mother works. She does not use the full range of the space around her house as the edges are weedy where the sewage passes and she has spotted snakes there before ("There is a lot of black water there, and snakes too"). 'Nature' is not always a benevolent entity that is 'uplifting and restorative' (Malone, 2016) — interactions with certain natures can be undesirable and disruptive in children's everyday lives. These fears are not only 'biological', but are also webbed in social relations and structures. Children interact with 'nature' not only as biological beings with an innate longing for 'nature', but as biosocial beings. Bhagya, age 10, does not spend much time outdoors since her family moved neighbourhoods, but she has a strong affinity towards insects. Bhagya, Age 10 does not feel comfortable with going outdoors without her family. She finds

different ways to attract them and catch them. She tells A that she once finally managed to catch a fly in box:

“Flies are difficult to catch. They are fast. But one day, I caught one with a box. Like *thap* (sound) I did and it somehow got caught inside. I gave it honey. And then I tied a thread around it, and it flew. It felt like I flew the fly like a kite.”

Bhagya leaves sugar on her window sill for ants to come in. She says that there are three types of ants that come in, but she does not welcome all three types of ants into her room. Bhagya refers to the third type of ants as ‘Muslim ants’ – framing her interactions with them through Islamophobic allegories. The relationships that children form with the urban natures that they interact with are complex; all ‘nature’ is not absent from their lives and the nonhuman world is woven into their social lives in varied ways. These imaginations can be formed outside of knowledge about the world that is imposed on them by adults; they can, instead, emerge through the complex more-than-human entanglements, environmental processes, and social processes that children are a part of (Kraftl et al., 2022).

“Dogs except one”	“Bugs, lizards and centipedes”
“I scared of insects”	“Too much rain because people die”
“Insects are one of my worst fears”	“I don’t like it when it rains a lot”
“her”	“Insects”
“Bees. Totally bees.”	“Bugs (leeches, roaches, spiders)”
“Venus fly traps and other big smelly flowers”	“I hate the insects. Every one of them.”
“Snakes, spiders and what is in the dark”	“Snakes and bees”
“Few animals that creep me out like frogs, snakes and other reptiles”	“Dirty water. The birds and animals kill each other”
“Dangers things. Animals in water”	“I dislike insects like bees and mosquitoes”
“Snakes”	“Cockroaches, because they look bad like mud”

*Figure 12: Randomly selected responses to things that children don't like about nature*

### 3.2.4 negotiating with the nonhuman world in everyday urban life

Conversations with children about their 'areas', as discussed earlier, brought forward a multitude of imaginations — this includes a plethora of places, human and nonhuman persons, and things that were assembled in complex configurations. The nonhuman world was observed to be not only a passive backdrop to which children carry out their regular activities but active in how children live, move, and play. The 'area' follows Cope's (2009) idea of a neighbourhood that is not 'universally defined' but rather is one that is 'perceived, determined and enacted by social actors with varying identities and agendas' (pp.2846). Children's perceptions and experiences of their areas are not independent of the nonhuman world but are instead formed in negotiation with it. Navigation of both outdoor and indoor lives involved nonhuman presences that were active and were actively considered by the children. Ever since Poorva's family adopted a dog, she has started watching birds:

"I love watching birds. I didn't always used to watch birds. But after we got Chikoo. He watches birds a lot. So I got very much interested in bird watching. And I sit with him and watch. I become slow and I sit and watch"



Figure 13: A group of children maps out their area showing dogs to be shaping their mobilities

Poorva's outdoor activities have changed significantly. She never used to take walks around her neighbourhood, but has now started taking walks with Chikoo as well as walks on her own to feed and play with the dogs in her area. The territories of dogs were observed to matter to children's mobilities — a factor in how children commute and the roads that they choose to play in. In the map shown in Figure 13, the group depicted the choice of the street they choose to play in as being shaped by where different dogs live — naming the dogs they were comfortable with and labelling other dogs as 'danger dogs'.

P: We don't go on that road. There's a danger dog that lives there.

R: Yes, that is a mad dog. It drinks petrol.

Conversation during the group discussion

Sudeeksha, Age 9, wants to narrate an 'adventure' she has had recently; but, her excitement makes it difficult for her as she struggles to put sentences together and articulate this adventure. Eventually, she manages to get her story across about how she crossed the road the other day:

"We were walking and there were cows there and there....there the cow was pregnant. We got scared and we cannot go that way. So we crossed the road."

Sudeeksha rarely goes outside of her apartment complex with her friends, and she has never crossed the road without her parents before. The pregnant cow presented an obstacle that forced her to push her boundaries to do something she had never done before. Children's embodied movements, territorial practices and encounters, with that of nonhuman animals like dogs shape their everyday practices — but they cannot be looked at without the broader scale processes that inform the various characteristics of neighbourhoods (Cope, 2009). These broader-scale processes include the politics of governing nonhuman lives and their influence on which urban natures can inhabit and flow through these neighbourhoods. One respondent who spends her free time interacting with the dogs in her neighbourhood spoke with a sense of relief,

“Because of the new rules, they cannot take away dogs to a different place anymore. Even if they take them for surgery, they have to bring them back to the same place”

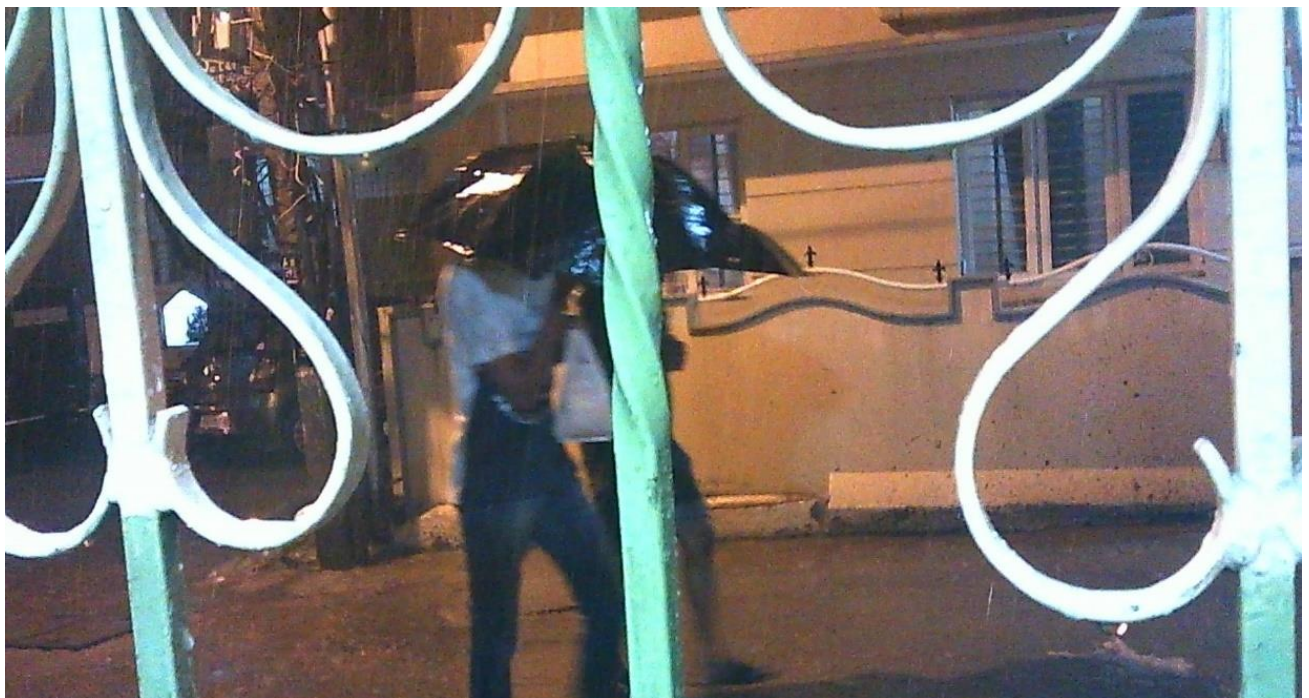


*Figure 14: Street dogs captured by a participant, age 10. Photovoice.*

The ordering of different natures in the city occurs under various urban planning imaginations. Even the presence of formal greenspaces such as public parks, gardens, and lakes, as discussed in subsection 3.2.2, is closely tied to the social, political, and cultural histories of the city (Nagendra, 2016). Certain species and assemblages of species have also been seen to resist this ordering — subverting urban planning imaginations of what belongs in the city (Shingne, 2020). Narayanan (2017) argues that the presence of dogs in cities needs to be viewed through the lens of informality — where they do not fall under the formal orderings or recognition of the city, but persist in shadow spaces ‘between being tolerated and being violently removed’ (pp.482) by the state. Within these grey spaces of informality, dogs are delicately positioned between the realms of legality and illegality; consistently changing with time and varying political agendas (Narayanan, 2017). The Animal Birth Control Rules, 2023 released by the central government frames street dogs as ‘community dogs’ (Ministry of Fisheries, Animal Husbandry & Dairying, 2023); shifting the responsibility of sterilising and vaccinating dogs to RWAs or resident welfare associations

(Nitnaware, 2023). These rules, to an extent, cement the presence of street dogs in public space. Questions are raised on their ability to control dog populations, as well as the dangers they present to children; reports of attacks on children by dogs are not uncommon (Nitnaware, 2023). Children who have varying uses of the ‘street’ are an especially vulnerable population in these contestations over public space — and their mobilities are not sans negotiation with the nonhuman world that co-produces public space.

Urban childhoods are often characterized as being nature-deficient (Louv, 2006); with urban children being ‘removed’ from ‘nature’ and having limited contact with it. This refers to particular forms of nature that are sparse in highly urbanised spaces. While children’s everyday engagements with these forms of nature are limited with varying levels of access to them; it is important to look at the relationships that children have with the urban natures that are already a part of their lifeworlds. This is not the pure ‘nature’ that is seen as being separate from them – but naturecultures that are formed relationally with the more-than-human world (Haraway, 2008).



*Figure 15: “If I am outside and it starts raining, I stay there only till it stops. I don’t go. There were these people walking out in the rain. That’s why I took this picture”. Participant, Age 12, Photovoice.*

Some children's accounts of their relationships with particular urban natures such as a specific tree, dogs, ants, and snakes did not emerge in relation to 'nature' as an entity — but were seen to be integrally moulded into their social lives. Jagdish, Age 12, had never 'fit in' among his peers in school and always 'stood out in his environment'. But he has found a love for snakes, collects snake skins, takes them to school, and is now acknowledged by others as being the 'snake boy'. He cannot stop talking about the snakes that he meets and is constantly finding new ways to develop his interest in them. He loves video games as well and spends a lot of time 'plugged in' on screens, but he imagines his virtual world characters and snakes coming together to form new emergent storylines and beings. Meghana, Age 8, loves to climb trees and speaks fondly of all the trees that she has climbed. She asks questions about the other research participants; and upon having it reiterated to her that their responses are being kept confidential and that whatever she shares will be used anonymously too, she sighs:

“Oh, yes. That is good. I don't want anybody else to know that I like trees and that I talk to them.”

Meghana talks to trees especially when her friends are rude to her, and likes to talk to some trees more than others; she has unique relationships with each of them. A particular tree that she loves to climb and talk to is not accessible to her anymore, as the 'big children' loiter there and say that it is their 'property'. This is even more hurtful to her as someone who used to be a close friend has now entered another age group, and hangs out with the 'big children.' But when going on a walk during the research activity, she takes the opportunity to point the tree out and climb it. Meghana's relationship with the spaces around her is closely intertwined with the other-than-human world as well as the social dynamics with the other children around her. Poorva's newly adopted dog has expanded her mobilities outdoors as well as brought about changes in her family life indoors:

“Before Chikoo, when my father would come home, he would be frustrated. And he would take all his frustrations out on us. We would be scared to go close also. Now when he comes in, first Chikoo runs to him and does

something something. Then he becomes calm and we escape his frustration.”

Through her companionship with Chikoo, and by exchanging reciprocal care, she has begun to explore the ‘outdoors’ which was once a space of fear. She has also been able to navigate the more problematic aspects of her familial relationships.



## Synthesis

This research project looked to explore child-nature relationships in Bengaluru — understanding children’s framings and conceptualisations of ‘nature’ and the ways in which they relate to the nonhuman world. Children and their relationships with nature in the field of environmental psychology have been of interest as beings whose well-being is closely associated with ‘nature’, but also as *becomings* — as future adults who have to be nurtured into environmental stewards. Urban childhoods have been of particular interest within the child and nature discourse; with children in cities being characterized as suffering from ‘nature-deficit syndrome’ (Louv, 2006).

Childhood and nature are commonly conflated concepts; with childhood being framed as ‘natural’ and ‘universal’ (Taylor, 2013). The production of space in the urban, although inherently shaped by environmental processes and flows, can be seen to involve the consistent sidelining of certain forms of nature (Robbins, 2020) — lending to the suggestion that the urban is a *denatured* space and that children in cities are, thus, ‘removed’ from nature. Rural childhoods are seen as being more ‘natural’ than urban childhoods (Jones, 1999). The study found that the symbolism of the rural and urban was not absent from participants’ imaginations of ‘nature’ — in fact, these spatial imaginaries were consistently invoked by them. For many children, this was not only an idealized notion of a more natural rural idyll, but a physical and embodied relationship that they have with the ‘village’ — referring to the village as their *ooru* and alluding to their multiple belongings. The production of space in Bengaluru is tied to various mobilities and migratory processes (Rajan, 2021). Urban children’s experiences of ‘nature’ are not only limited to their immediate surroundings — as they might move through different places, with these experiences shaping their understandings of ‘nature’. But these interactions with natures in other spaces do not necessarily translate symmetrically to the city; these natures are composed within specific socio-spatial contexts and might have differing meanings in the city. These findings show that urban childhoods are not simply ‘emplaced’ in the city. They are connected to other places both physical and imagined. Their sense of environmental identity is not tied to a single place, but fluid and ever-changing, reflecting their multiple belongings.

'Nature' is a contested and constructed category, holding multiple meanings and interpretations. The inherent contradictions within this category were reflected by participants' conceptualisations; as they encounter different perspectives on what nature is and how it should be valued. Nature is *everywhere*, yet outside of them — with the nature that needs saving or protection often located further away from home. These 'faraway' natures, although (often) mediated through virtual environments, were seen to contribute to children's understandings and perceptions of the abstraction of 'nature'. Children's nature experiences extended into virtual spaces as well — blurring the lines between physical and digital realities, and destabilizing the idea that 'nature' can only be experienced through embodied movement. The social, cultural, and technological factors that shape children's lives also shape their experiences and perceptions of nature. While nature can be experienced in forms other than embodied experiences, research has shown that access to the outdoors and time spent in nature spaces are crucial in fostering children's connections to nature (Chawla, 2015, 2020). The benefits of play in nature spaces have also been observed to percolate into other aspects of children's lives — having a positive impact on children's physical, emotional, social, and cognitive development (Dowdell et al., 2011; Horton, 2016). The distribution of nature spaces, however, is spatially heterogeneous — with various socio-spatial factors informing their accessibility to different groups. This study found that nature spaces in Bengaluru such as public parks and lakes largely formed spaces of visitation for children under parental supervision, but not spaces for everyday play and dwelling. Participants pointed towards socio-economic barriers as well as fears such as that of strangers and snakes as limiting their use of these spaces. The social and material barriers that limit access to public space for children were observed to be further heightened in nature spaces. Access to nature spaces, therefore, also has to be considered in the context of the larger issue of access to the outdoors.

The outdoors are not uniformly experienced by all children — they are shaped by a variety of factors, including their spatial and social locations within the city. The outdoors are heterogeneous and offer different meanings and possibilities for different children. Exploring children's imaginations and narratives of their areas

through in-depth interviews, photovoice, group discussions, and mapping exercises revealed complex configurations of places, persons (human and non-human), and things. *Other* nature spaces such as unmanaged wooded areas also featured in their imaginations. They were often tied to geographies of fear, but also afforded room for other imaginings of space. The concept of 'nature-deficit syndrome' refers to the lack of experiences in specific forms of 'wild' nature; but, with a broader idea of what constitutes 'nature', it could be observed how children's social lives are webbed with other urban natures and the nonhuman world. By exploring how children in Bengaluru relate to the various urban natures around them such as mud, birds, dogs, snakes, weeds, cows, and trees, the study suggests that the nonhuman world is not only an inanimate physical plane upon which children carry out their routine activities, but active participants that shape how children think, feel, move and play. Children's mobilities were seen to be shaped not only by purely social processes but also through negotiations with the nonhuman world. These relationships with other urban natures were not always beneficial and happiness-inducing; children had relationships that were of mutual compassion, care, and kinship, but these relationships could also be of other forms such as indifference, awkwardness, fearfulness, and violence. These findings question what it means for children in the city to (re)connect to 'nature', and relate to 'nature' as an entity that is outside of them.

'Children, Nature, the City' is a research study that explores the different ways in which children in Bengaluru interact with the natural world. The findings show how the nonhuman world is woven into children's lives in complex and sometimes unexpected ways — challenging the notion of 'nature' as an entity that is outside of urban childhoods. The findings indicate that differences in children's interactions with the outdoors and with nature spaces are mediated by their spatial and social locations; these heterogeneities need to be further explored to identify patterns in children's varying degrees of access to these spaces in more detail. The study engages with children's articulations of their relationships with the natural world from these points of difference but does not delve specifically and deeply into how caste, gender and other socio-economic indicators inform these experiences. With a broad study

area, the study looked to involve the voices of participants from varied geographies within the city – but certain forms of childhood and how childhood is experienced would not have been captured in the study. Site-specific ethnographic research into children’s interactions with nature and the nonhuman world would give more insight into the processes through which these relationships are formed.

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## Appendices

### Appendix A: Information Sheet for parents/carers/educators regarding questionnaire survey

ವಿಭಾಗ ೧: ಮಾಹಿತಿ ಪತ್ರ.

#### Purpose of the Research:

ಸಂಶೋಧನೆಯ ಉದ್ದೇಶ:

The purpose of this research is to understand how children in urban and peri-urban settings connect with nature and experience the world around them. We also look to understand how the pandemic has had an effect on these experiences. Through our research, we hope to draw insights that will supplement the Nature Classrooms Project at NCF, Bangalore. The Nature Classrooms Project engages with school teachers and educators through a nature-learning framework to help strengthen school EVS curricula.

ನಗರ ಮತ್ತು ನಗರದ ಸುತ್ತಮುತ್ತಲಿನ ಮಕ್ಕಳು ತಮ್ಮ ಪರಿಸರದ ಜೊತೆ ಹೇಗೆ ಒಡನಾಡುತ್ತಾರೆ ಮತ್ತು ಯಾವ ರೂಪದ ಸಮಪರ್ಕವನ್ನು ಹೊಂದಿದ್ದಾರೆ ಎಂದು ತಿಳಿಯುವುದು ಈ ಸಂಶೋಧನೆಯ ಉದ್ದೇಶವಾಗಿದೆ. ಕೋವಿಡ್ ಪಿಡುಗು ಅವರ ಈ ಅನುಭವಗಳ ಮೇಲೆ ಯಾವ ರೀತಿಯ ಪರಿಣಾಮಗಳನ್ನು ಬೀರಿದೆ ಎನ್ನುವುದನ್ನೂ ನಮಗೆ ತಿಳಿಯಬೇಕಿದೆ. ಈ ಸಂಶೋಧನೆಯಿಂದ ಲಭಿಸಿದ ಜ್ಞಾನವು ಏನ್ . ಸಿ. ಎಫ್, ಬೆಂಗಳೂರಿನಲ್ಲಿ ನಡೆಯುತ್ತಿರುವ “ನೇಚರ್ ಕ್ಲಾಸ್ರೂಮ್ ಪ್ರೊಜೆಕ್ಟ್”ಗೆ (ಪ್ರಕೃತಿ ತರಗತಿ ಪ್ರಾಯೋಜನೆ) ಪೂರಕವಾಗಬಹುದೆಂದು ನಾವು ತಿಳಿದಿದ್ದೇವೆ.

#### Procedure:

#### ಕಾರ್ಯ ವಿಧಾನ:

A questionnaire survey will be provided to the participant. This will include items that require short descriptive answers and multiple-choice items. The instructions for each of the items are provided in the survey. The survey will take approximately 30-40 minutes to respond to. There is no time limit for filling the questionnaire. The participant can take as much time as they feel like to respond to the questions. There are no right or wrong answers to the questions in the survey.

ಸಂಶೋಧನೆಯಲ್ಲಿ ಪಾಲ್ಗೊಳ್ಳುವವರಿಗೆ ಒಂದು ಪ್ರಶ್ನಾವಳಿಯನ್ನು (ಸರ್ವೆ) ಕೊಡಲಾಗುವುದು. ಇದು ವಿವರಣಾತ್ಮಕ ಉತ್ತರ ಅಥವಾ “ಬಹು ಆಯ್ಕೆ” (ಮಲ್ಟಿಪಲ್ ಚಾಯ್ಸ್ ಕ್ವೆಶ್ಚನ್) ಉತ್ತರಗಳನ್ನೂ ಹೊಂದಿರಬಹುದು. ಈ ಸರ್ವೆಯ ಪ್ರತಿಯೊಂದು ವಿಭಾಗಕ್ಕೂ ಸೂಚನೆಯನ್ನು ಕೊಡಲಾಗಿರುತ್ತದೆ. ಸರ್ವೆ ಉತ್ತರಿಸಿ ಮುಗಿಸಲು ಸುಮಾರು ೩೦ ರಿಂದ ೪೦ ನಿಮಿಷಗಳು ಬೇಕಾಗಬಹುದು. ಪ್ರಶ್ನಾವಳಿಗಳನ್ನು ಉತ್ತರಿಸಿ ಮುಗಿಸಲು ಸಮಯದ ನಿರ್ದಿಷ್ಟ ಪರಿಮಿತಿಯಿಲ್ಲ. ಪಾಲ್ಗೊಳ್ಳುವವರು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಲು ಸಾಕಷ್ಟು ಸಮಯವನ್ನು ತೆಗೆದುಕೊಳ್ಳಬಹುದು. ಈ ಪ್ರಶ್ನೆಗಳಿಗೆ ಯಾವುದೇ ನಿಖರವಾದ ತಪ್ಪು ಅಥವಾ ಸರಿ ಎಂಬ ಉತ್ತರಗಳಿರುವುದಿಲ್ಲ.

### **Duration of the Study:**

ಸಂಶೋಧನೆಯ ಕಾಲಾವಧಿ.

The study is a one-year project and will look to be completed by December, 2022. The participant's involvement, however, will not extend beyond the time spent completing the survey.

ಈ ಸಂಶೋಧನೆಯು ಒಂದು ವರ್ಷದ ಕಾಲಾವಧಿಯನ್ನು ಹೊಂದಿದೆ. ಈ ಅಧ್ಯಯನವನ್ನು ೨೦೨೨ ಡಿಸೆಂಬರ್ ಒಳಗೆ ಮುಗಿಸಲಾಗುತ್ತದೆ. ಆದರೆ ಮಕ್ಕಳ ಪಾಲ್ಗೊಳ್ಳುವಿಕೆ ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿ ಮುಗಿಸುವರೆಗೆ ಮಾತ್ರ.

### **Voluntary Participation:**

#### **ಸ್ವ-ಇಚ್ಛೆಯಿಂದ ಭಾಗವಹಿಸುವಿಕೆ:**

Your child's participation in this study is entirely voluntary. It is you and your child's choice whether they wish to participate or not. At any point in the study, you may change your mind about taking part in the study and withdraw your child's involvement from the study.

ನಿಮ್ಮ ಮಕ್ಕಳು ಸಂಪೂರ್ಣ ಸ್ವ-ಇಚ್ಛೆಯಿಂದ ಈ ಸಂಶೋಧನೆಯಲ್ಲಿ ಪಾಲ್ಗೊಳ್ಳಬೇಕು. ಪಾಲ್ಗೊಳ್ಳುವುದು ನಿಮ್ಮ ಮತ್ತು ನಿಮ್ಮ ಮಕ್ಕಳ ನಿರ್ಧಾರ. ನೀವು ಯಾವುದೇ ಹಂತದಲ್ಲಿ ಮನಸ್ಸನ್ನು ಬದಲಾಯಿಸಿ ನಿಮ್ಮ ಮಕ್ಕಳು ಸಂಶೋಧನೆಯಲ್ಲಿ ಪಾಲ್ಗೊಳ್ಳುವುದನ್ನು ನಿಲ್ಲಿಸಬಹುದು.

### **Confidentiality:**

#### **ಗೌಪ್ಯತೆಯನ್ನು ಕಾಪಾಡುವಿಕೆ:**

The information gathered from your child will not be shared with anyone outside of the research

team. Information about your child will have a number next to it, instead of a name. If a name is used to describe your child's views better, a fictitious name will be used that does not in any way disclose the identity of your child.

ನಿಮ್ಮ ಮಕ್ಕಳಿಂದ ಪಡೆಯಲಾದ ಮಾಹಿತಿಯನ್ನು ಈ ಸಂಶೋಧನಾ ತಂಡದ ಹೊರತು ಬೇರೆಯವರೊಂದಿಗೆ ಹಂಚಿಕೊಳ್ಳುವುದಿಲ್ಲ. ಗೋಪ್ಯತೆಯನ್ನು ಕಾಪಾಡಲು, ನಿಮ್ಮ ಮಕ್ಕಳಿಂದ ಪಡೆದ ಮಾಹಿತಿಯ ಮುಂದೆ ಅವರ ಹೆಸರಿನ ಬದಲು ಒಂದು ಸಂಖ್ಯೆಯನ್ನು ಬರೆಯಲಾಗುವುದು. ನಿಮ್ಮ ಮಕ್ಕಳ ಭಾವನೆಯನ್ನು ಯಥಾವತ್ತಾಗಿ ವಿವರಿಸಲು ಹೆಸರನ್ನು ಉಲ್ಲೇಖಿಸುವುದು ಅಗತ್ಯವಾದರೆ ನಿಮ್ಮ ಮಕ್ಕಳ ಗುರುತು ಯಾವುದೇ ರೀತಿಯಲ್ಲಿ ಬಹಿರಂಗವಾಗದಂತೆ ಒಂದು ಕಾಲ್ಪನಿಕ ಹೆಸರನ್ನು ಬಳಸಲಾಗುವುದು.

### **Sharing Results:**

#### **ಫಲಿತಾಂಶ ಪ್ರಕಟಣೆ:**

The research team may use the results of this study to inform their current nature education work in schools and to write popular articles, research papers and reports. None of your child's responses will be labeled with their name in any of these articles. If you are interested in knowing the findings, a report can be made available to you and your child. You can make the request to a project member; their contact information is listed below.

ಸಂಶೋಧನಾ ತಂಡವು ಫಲಿತಾಂಶವನ್ನು ಶಾಲೆಗಳಲ್ಲಿ ನಡೆಯುತ್ತಿರುವ ಪ್ರಕೃತಿಯ ಬಗೆಗಿನ ಶಿಕ್ಷಣದ ಸಲುವಾಗಿ ಬರೆಯುವ, ಜನಪ್ರಿಯ ಲೇಖನಗಳು, ವೈಜ್ಞಾನಿಕ ಲೇಖನಗಳು ಮತ್ತು ವರದಿಗಳಿಗೆ ಪೂರಕವಾಗಿ ಬಳಸಿಕೊಳ್ಳಬಹುದು. ಈ ಯಾವುದೇ ವರದಿಗಳಲ್ಲಿ ನಿಮ್ಮ ಮಕ್ಕಳ ಉತ್ತರಗಳೊಂದಿಗೆ ಅವರ ಹೆಸರನ್ನು ನಮೂದಿಸಲಾಗುವುದಿಲ್ಲ (ಕಾಣಿಸಲಾಗುವುದಿಲ್ಲ). ನಿಮಗೆ ಫಲಿತಾಂಶದಲ್ಲಿ ಆಸಕ್ತಿಯಿದ್ದರೆ ನಿಮಗೆ ಈ ವರದಿಯು ಲಭ್ಯವಿರುತ್ತದೆ. ಕೆಳಕಾಣಿಸಿರುವ ಕಾಂಟಾಕ್ಟ್ ನಂಬರ್ ನ ಮೂಲಕ ನೀವು ಈ ಸಂಶೋಧನಾ ತಂಡದ ಸದಸ್ಯರನ್ನು ಸಂಪರ್ಕಿಸಿ ಮನವಿ ಮಾಡಿಕೊಳ್ಳಬಹುದು.

### **Right to Refuse or Withdraw:**

#### **ನಿರಾಕರಿಸುವ ಅಥವಾ ಹಿಂದೆಗೆಯುವ ಹಕ್ಕು:**

Your child does not have to take part in this research if they do not wish to do so. Your child may stop participating at any point during the research process.

ಸಮ್ಮತಿಯಿಲ್ಲದಿದ್ದರೆ ನಿಮ್ಮ ಮಕ್ಕಳು ಈ ಸಂಶೋಧನೆಯಲ್ಲಿ ಭಾಗವಹಿಸುವ ಅವಶ್ಯಕತೆಯಿಲ್ಲ. ನಿಮ್ಮ ಮಗುವು ಯಾವುದೇ ಹಂತದಲ್ಲೂ ಭಾಗವಹಿಸುವುದನ್ನು ನಿಲ್ಲಿಸಬಹುದು.

**Who to Contact:**

**ಯಾರನ್ನು ಸಂಪರ್ಕಿಸಬೇಕು:**

If you have any queries, you can contact any of the following project members:

ನಿಮಗೆ ಯಾವುದೇ ಪ್ರಶ್ನೆಗಳಿದ್ದರೆ ನೀವು ತಂಡದ ಸದಸ್ಯರನ್ನು ಸಂಪರ್ಕಿಸಬಹುದು.

1. Aashish Gokhale (Primary Researcher)

ಆಶಿಶ್ ಗೋಖಲೆ (ಪ್ರಧಾನ ಸಂಶೋಧಕ)

2. Kaustubh Rau

ಕೌಸ್ತುಭ್ ರಾವ್

3. Roshni Ravi

ರೋಶನಿ ರವಿ

4. Vena Kapoor

ವೀಣಾ ಕಪೂರ್

## Appendix B: Information leaflet for children participating in the open-ended research activities

### A research project to listen to young people's views about nature, neighbourhoods and their communities

ಮಕ್ಕಳಿಗೆ, ಪ್ರಕೃತಿ ಮತ್ತು ಅವರ ಸಮುದಾಯ ಹಾಗೂ ನೆರೆಹೊರೆಯ ಬಗ್ಗೆ ಇರುವ ಅನಿಸಿಕೆಗಳನ್ನು ತಿಳಿದುಕೊಳ್ಳಲು ರೂಪಿಸಲಾದ ಒಂದು ಸಂಶೋಧನೆ.

Adults are often asked how they feel about their neighbourhoods and their communities. But young people are sometimes forgotten when learning about these kinds of things. Through this research project, we want to know:

ವಯಸ್ಕರಿಗೆ ಅವರ ನೆರೆಹೊರೆಯ ಮೇಲೆ ಇರುವ ಅನಿಸಿಕೆಗಳ ಬಗ್ಗೆ ಸಾಕಷ್ಟು ಕೇಳಿ- ದಾಖಲಿಸಲಾಗಿದೆ. ಆದರೆ ಸಮುದಾಯ ಮತ್ತು ನೆರೆಹೊರೆಯ ಮೇಲೆ ಮಕ್ಕಳ ಅನಿಸಿಕೆಗಳು ಏನು ಎಂಬ ಅಧ್ಯಯನಗಳು ನಡೆದಿರುವುದು ಕಡಿಮೆ. ಹಾಗಾಗಿ ಈ ಸಂಶೋಧನೆಯ ಮೂಲಕ ನಾವು ಈ ಕೆಳಗೆ ಕಾಣಿಸಿದ ಅಂಶಗಳನ್ನು ತಿಳಿಯಲು ಬಯಸುತ್ತೇವೆ.

- how you feel about your neighbourhood  
ನಿಮ್ಮ ನೆರೆಹೊರೆಯ ಬಗ್ಗೆ ನಿಮಗೆ ಏನನ್ನಿಸುತ್ತದೆ?
- what you enjoy doing outside of school; with who, and where?  
ಶಾಲೆಯ ಸಮಯದ ಹೊರತಾಗಿ ನಿಮಗೆ ಏನು ಮಾಡಲು ಇಷ್ಟ, ಯಾರೊಂದಿಗೆ ಮತ್ತು ಎಲ್ಲಿ?
- if you like spending time outdoors  
ನಿಮಗೆ ಮನೆಯ ಹೊರಗೆ/ಶಾಲೆಯ ಹೊರಗೆ ಸಮಯ ಕಳೆಯಲು ಇಷ್ಟವೇ?
- if there are anything about your surroundings that you would like to change  
ನಿಮಗೆ, ನಿಮ್ಮ ಸುತ್ತಮುತ್ತಲು ಮತ್ತು ನೀವು ಬದುಕುವ ಜಾಗದಲ್ಲಿ ಏನನ್ನಾದರೂ ಬದಲಾವಣೆಯನ್ನು ತರಬೇಕೆಂದು ಇದೆಯೇ?

This research will explore the ways in which young people like you see, feel and experience the world. ಈ ಸಂಶೋಧನೆ, ನಿಮ್ಮಂತಹ ಮಕ್ಕಳು ಪರಿಸರವನ್ನು ಯಾವ ದೃಷ್ಟಿಕೋನದಿಂದ ನೋಡುತ್ತೀರಿ ಎಂದು ಅಧ್ಯಯನ ನಡೆಸುವುದಾಗಿದೆ .

#### Questions you might want to ask me:

ನನ್ನನ್ನು ನೀವು ಈ ಕೆಳಗಿನ ಪ್ರಶ್ನೆಗಳನ್ನು ಕೇಳಬಹುದು.

#### *Who are you?*

ನೀವು ಯಾರು?

I am Aashish Gokhale. I work at Azim Premji University and Nature Conservation Foundation as a researcher. I work with a team of four other people who are also interested in understanding young people and learning more about their lives.



ನಾನು ಆಶೀಶ್ ಗೋಖಲೆ. ನಾನು ಅರಿಯುವ ಪ್ರೇಂಜಿ ವಿಶ್ವವಿದ್ಯಾಲಯ ಮತ್ತು ನೇಚರ್ ಕನ್ಸರ್ವೇಷನ್ ಫೌಂಡೇಷನ್ ಗಳಲ್ಲಿ ಸಂಶೋಧಕನಾಗಿ ಕೆಲಸ ಮಾಡುತ್ತೇನೆ. ನಾನು, ನನ್ನಂತೆಯೇ, ಮಕ್ಕಳ ಜೀವನದ ಬಗ್ಗೆ ತಿಳಿದುಕೊಳ್ಳಲು ಉತ್ಸುಕ ಇರುವ ನಾಲ್ಕು ಜನರ ತಂಡದೊಂದಿಗೆ ಕೆಲಸ ಮಾಡುತ್ತೇನೆ.

### ***How will you do this?***

ನೀವು ಹೇಗೆ ಅಧ್ಯಯನ ಮಾಡುತ್ತೀರಿ.

1. by asking you a few questions about your neighbourhood, about your school, about things that you enjoy (or don't enjoy) doing, and about the changes you would like to make to your surroundings if you could; or,  
ನಿಮ್ಮನ್ನು ನಿಮ್ಮ ಪರಿಸರ, ಶಾಲೆ, ನಿಮ್ಮ ರುಚಿ ಹಾಗೂ ಅರುಚಿ, ಮತ್ತು ನೀವು ನಿಮ್ಮ ಪರಿಸರದಲ್ಲಿ ಏನನ್ನು ಬದಲಿಸಲು ಇಷ್ಟ ಪಡುತ್ತೀರಿ ಎಂಬುದರ ಬಗ್ಗೆ ಪ್ರಶ್ನೆ ಕೇಳುವ ಮೂಲಕ.  
ಅಥವಾ,
2. by giving you a journal and asking you to write (or draw), whenever you have the time, about things that you see in the places you go to and what you feel about them; or,  
ನೀವು ಹೋದಲ್ಲಿ ನೀವು ನೋಡಿದ್ದು ಮತ್ತು ಅನಿಸಿದ್ದನ್ನು ನಿಮಗೆ ಸಮಯವಿದ್ದಾಗ ಬರೆಯಲು ಅಥವಾ ಬಿಡಿಸಲು ಪ್ರೋತ್ಸಾಹಿಸಿ.  
ಅಥವಾ,
3. by asking you to take pictures of anything you feel like taking pictures of and then talking to me about them; or,  
ನಿಮಗನಿಸಿದ್ದನ್ನು "ಫೋಟೋ" ತೆಗೆಯಲು ಹೇಳಿ ಮತ್ತು ಅದರ ಬಗ್ಗೆ ನನ್ನ ಜೊತೆ ನಿಮ್ಮ ಅನಿಸಿಕೆಗಳನ್ನು ಹಂಚಿಕೊಳ್ಳುವಂತೆ ಮಾಡಿ.  
ಅಥವಾ,
4. by bringing together small groups with you and other young people, and asking you questions about what it is like being young in a place like yours, and asking you to collectively draw a map of your neighbourhood; or,  
ನಿಮ್ಮನ್ನು ಬೇರೆ ಮಕ್ಕಳೊಂದಿಗೆ ಬೆರೆಯುವಂತೆ ಮಾಡಿ, ನಿಮ್ಮ ಪರಿಸರದ ಬಗೆಗಿನ ಅನಿಸಿಕೆಗಳನ್ನು ಕೇಳುವುದು ಮತ್ತು ನೀವೆಲ್ಲ ಸೇರಿ ನೀವಿರುವ ಜಾಗದ ನಕಾಶೆಯನ್ನು ಬಿಡಿಸಲು ಹೇಳುವುದರ ಮೂಲಕ.  
ಅಥವಾ,

If you would like to choose the activities you want to take part in, you can talk to me about it.

ನಿಮಗೆ ಯಾವುದಾದರೂ ಚಟುವಟಿಕೆಗಳಲ್ಲಿ ಭಾಗವಹಿಸಲು ಇಷ್ಟವಿದ್ದರೆ, ನೀವು ನನ್ನೊಂದಿಗೆ ಮಾತನಾಡಬಹುದು.

### ***Will you be recording any of this?***

ನೀವು ಇವುಗಳನ್ನು ದಾಖಲಿಸುತ್ತೀರಾ/ರೆಕಾರ್ಡ್ ಮಾಡುತ್ತೀರಾ?

I will be audio-recording the group discussion so that I do not miss out on anyone's views. I will go back to the recording when I have to write a report about the views of young people. No one else but the small team I work with and I will listen to these recordings.

ನಾನು ಗುಂಪಿನಲ್ಲಿ ನಡೆಯುವ ಚರ್ಚೆಗಳನ್ನು ಯಾರು ಹೇಳಿದ್ದೂ ತಪ್ಪಿ ಹೋಗಬಾರದೆಂದು ಆಡಿಯೋ ರೆಕಾರ್ಡ್ ಮಾಡುತ್ತೇನೆ.  
ವರದಿಯನ್ನು ಬರೆಯುವಾಗ ನಾನು ಈ ರೆಕಾರ್ಡಿಂಗ್ ಆಲಿಸುತ್ತೇನೆ. ನಾನು ಮತ್ತು ನನ್ನ ತಂಡಕ್ಕೆ ಮಾತ್ರ ಈ ರೆಕಾರ್ಡಿಂಗ್ ಲಭ್ಯವಿರುತ್ತದೆ.

***Will you use my name?***

***ನೀವು ನನ್ನ ಹೆಸರನ್ನು ಎಲ್ಲಾದರೂ ಉಪಯೋಗಿಸುತ್ತೀರಾ?***

No, your name will not appear anywhere in the report. We might give you a different name if that helps us describe your thoughts better. No one else reading the report will know who you are.

ವರದಿಯಲ್ಲಿ ನಿಮ್ಮ ಹೆಸರುಗಳನ್ನು ಎಲ್ಲೂ ಉಪಯೋಗಿಸಲಾಗುವುದಿಲ್ಲ. ನಿಮ್ಮ ಅನಿಸಿಕೆಗಳನ್ನು ನಿಖರವಾಗಿ ನಿರೂಪಿಸಲು ಎಲ್ಲಾದರೂ ಹೆಸರನ್ನು ಉಪಯೋಗಿಸಬೇಕಾಗಿ ಬಂದಲ್ಲಿ, ನಿಮ್ಮ ಹೆಸರನ್ನು ಬದಲಾಯಿಸಿ ನಮೂದಿಸುತ್ತೇವೆ. ವರದಿಯನ್ನು ಓದುವ ಯಾರಿಗೂ ನಿಮ್ಮ ಹೆಸರು ಗೊತ್ತಾಗುವುದಿಲ್ಲ.

***Will it be confidential?***

***ನನ್ನ ಹೆಸರನ್ನು ಗೌಪ್ಯವಾಗಿ ಇಡಲಾಗುತ್ತದೆಯೇ?***

Yes, it will be confidential. You can tell anyone you like about the research and the questions that you were being asked, but whatever you tell me will be treated as confidential by me. Only if you tell me something that makes me very worried about your safety, I might speak to someone else. But I will not do it before talking to you first.

ಹೌದು, ನಿಮ್ಮ ಹೆಸರನ್ನು ಗೌಪ್ಯವಾಗಿ ಇಡಲಾಗುತ್ತದೆ. ನೀವು ನನಗೆ ಏನೇ ಹೇಳಿದರೂ ಅದನ್ನು ನಾನು ಗೌಪ್ಯವಾಗಿ ಇಡುತ್ತೇನೆ. ಆದರೆ ನೀವು ಈ ಸಂಶೋಧನೆಯ ಬಗ್ಗೆ ಮತ್ತು ಇದರಲ್ಲಿ ಕೇಳಿರುವ ಪ್ರಶ್ನೆಗಳ ಬಗ್ಗೆ ಯಾರೊಂದಿಗೆ ಬೇಕಾದರೂ ಚರ್ಚಿಸಬಹುದು. ನೀವು ಒದಗಿಸಿದ ವಿಷಯಗಳಿಂದ ನಿಮ್ಮ ಸುರಕ್ಷತೆಗೆ ಧಕ್ಕೆ ಬರುತ್ತದೆ ಎಂಬ ಅನುಮಾನ ಉಂಟಾದರೆ ಮಾತ್ರ ನಾನು ನೀವು ಹೇಳಿದ್ದನ್ನು ಬೇರೆಯವರೊಂದಿಗೆ ಚರ್ಚಿಸಬಹುದು. ಆದರೆ ಹಾಗೆ ಮಾಡುವ ಮುನ್ನ ನಿಮ್ಮ ಅನುಮತಿಯನ್ನು ಪಡೆಯುತ್ತೇನೆ.

***Will I see the report you write?***

***ನೀವು ಬರೆಯುವ ವರದಿ ನನಗೆ ನೋಡಲು ಸಿಗಬಹುದೇ?***

We hope to write a report by the end of this year. I might lose track of you, but you can always reach out to me and ask me to share the report with you. If you need help understanding what the report means, I will try to help you with that too.

ಬಹುಷಃ ನಾವು ವರದಿಯನ್ನು ಈ ವರ್ಷದ ಕೊನೆಯೊಳಗೆ ಬರೆದು ಮುಗಿಸಬಹುದು. ಹಾಗಾಗಿ ನನಗೆ ನಿಮ್ಮನ್ನು ಪ್ರತ್ಯೇಕವಾಗಿ ಸಂಪರ್ಕಿಸಿ ತೋರಿಸಲು ಆಗದಿರಬಹುದು. ಆದರೆ ನೀವು ನನ್ನನ್ನು ಸಂಪರ್ಕಿಸಿ ವರದಿಯನ್ನು ತೋರಿಸಲು ಕೇಳಬಹುದು. ನಿಮಗೆ ವರದಿಯ ಅರ್ಥವಾಗದೇ ಇದ್ದರೆ, ನಾವು ನಿಮಗೆ ವರದಿಯ ಅರ್ಥವನ್ನು ವಿವರಿಸುತ್ತೇವೆ.

***Do I have to take part in this project?***

***ನಾನು ಈ ಸಂಶೋಧನೆಯಲ್ಲಿ ಪಾಲ್ಗೊಳ್ಳುವುದು ಖಡ್ಡಾಯವೇ?***

No. It is completely fine if you do not want to take part in this project. This leaflet is to give you information about the study, and to help you decide whether you would want to participate in the study. Even if you decide to participate now, you can change your mind later and stop taking part.

ಈ ಸಂಶೋಧನೆಯಲ್ಲಿ ಪಾಲ್ಗೊಳ್ಳುವುದು ಖಡ್ಡಾಯವಲ್ಲ. ಈ ಹಸ್ತ ಪತ್ರಿಕೆ ನಿಮಗೆ ಈ ಸಂಶೋಧನೆಯ ಬಗ್ಗೆ ಮಾಹಿತಿ ಕೊಡಲು ಮತ್ತು ನಿಮಗೆ ಈ ಸಂಶೋಧನೆಯಲ್ಲಿ ಪಾಲ್ಗೊಳ್ಳಬೇಕೇ ಅಥವಾ ಬೇಡವೇ ಎಂದು ನಿರ್ಣಯಿಸಲು ಸಹಾಯವಾಗಲೆಂದು ತಯಾರಿಸಲಾಗಿದೆ. ಈಗ ಪಾಲ್ಗೊಳ್ಳಲು ಒಪ್ಪಿದರೂ, ನಂತರ ನೀವು ನಿಮ್ಮ ನಿರ್ಧಾರವನ್ನು ಬದಲಿಸಬಹುದು.

***How do I reach you if I want to ask you more, or if I change my mind about taking part?***

***ನನಗೆ ಹೆಚ್ಚಿನ ಪ್ರಶ್ನೆಗಳಿದ್ದರೆ ಅಥವಾ ಪಾಲ್ಗೊಳ್ಳುವುದರ ಬಗ್ಗೆ ನನ್ನ ಮನಸ್ಸನ್ನು ಬದಲಾಯಿಸಿದರೆ ನಿಮ್ಮನ್ನು ಹೇಗೆ ಸಂಪರ್ಕಿಸಬೇಕು?***

You can call me on +91-xxxxxxxxxx , or leave a message. You can reach me through email on and xyz@xyz.com. You can also approach me directly if you happen to see me around.

ನೀವು +91-xxxxxxxxxx ಗೆ "ಫೋನ್" ಅಥವಾ "ಮೆಸೇಜ್" ಮಾಡಬಹುದು. ಅಥವಾ xyz@.com ಇಲ್ಲವೇ ಗೆ "ಈ-ಮೇಲ್" ಮಾಡಬಹುದು. ನೀವು ನನ್ನನ್ನು ಎಲ್ಲಾದರೂ ನೋಡಿದರೆ ನೇರವಾಗಿ ಬಂದು ಮಾತನಾಡಲೂಬಹುದು.