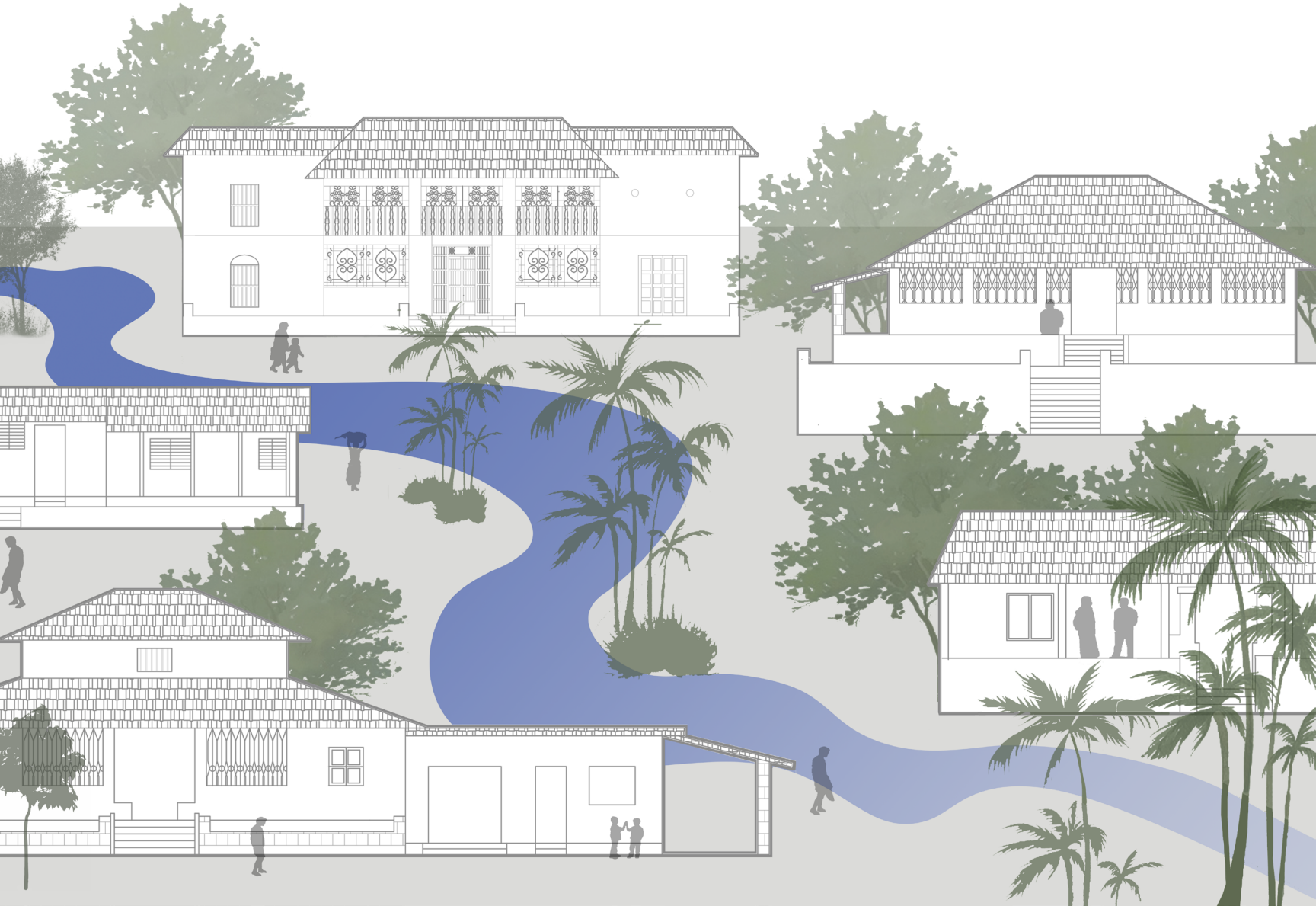
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ICOMOS INDIA

EXPLORING NATURE, CULTURE, AND SETTLEMENTS

Western Ghats Cultural Landscape and Settlements

Edited by Niyati Jigyasu, Poonam Trambadia, Vaidehi Lavand



Title: Exploring Nature, Culture, and Settlements:
Western Ghats Cultural landscape and settlements
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Brick Publication House
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Cover Page Design: Abhay Khele, Kaustabh Somshetti,
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ONLINE ISBN:

Published by
ICOMOS INDIA AND BRICK PUBLICATION HOUSE
SMEF's Brick Group of Institutes
Survey No. 50/3. Jagdamba Bhavan Marg, Undri,
Pune Maharashtra, 411060
Email: brickpublication@brick.edu.in
Website: https://brick.edu.in/Publications



Photo by Raman Kulkarni

CONTENTS

Preface

Address by President, ICOMOS India

From the Principal's desk,
SMEF'S Brick School of Architecture, Pune

Introduction

1.Nature, Culture and Settlements
Studying nature, culture and settlement
Handbook
Niyati Jigyasu, Poonam Trambadia

2.Methodological Framework for the Study
Vaidehi Lavand Niyati Jigyasu, Poonam Trambadia

Perspectives on Nature and Culture Studies

3.Framework for Cultural Landscape and Documentation Part I & II
Suryanarayana Murthy

4.Documenting Cultural Landscapes
Vaishali Latkar

5.Significance of Inventories in the Documentation Process
Saranya Dharshini

The Case Studies

6.The Training and Capacity Building Program
Vaidehi Lavand

7.Understanding Natural Heritage and Management Challenges in the Context of Western Ghats
Girish Punjabi

8.Significance of Western Ghats as Natural Heritage
Raman Kulkarni

9.Associations of Cultural Heritage and Communities in Konkan
Saili Palande Datar

10.Tillari Bioregion: Mapping Conflict of Man and Nature
Onkar Khebudkar

11.Understanding Settlement Patterns in Western Ghats
Vaidehi Lavand

12.Process of Inventory making for a settlement study
Ramiya Gopalakrishnan

13.Exploring Sustainable Design Strategies and Material Use in the Settlements of Kudase: A Case Study on Vernacular Architecture
Vinita Lulla

Documentation of Kudase Wadi, Tillari Region
Faculty and S.Y. B. Arch batch of 2021-22, SMEF's Brick School of Architecture

Glossary
Geographic Context of Tillari Region
Significance of Ecology and Biodiversity
History, People, Communities, Occupation, Culture and Festivals
Context of Kudase Village
Wadis in Kudase Village
Vanoshiwadi
Kudasewadi
Deomalawadi

Analysis and Inferences

Epilogue



ACKNOWLEDGEMENT

We are delighted to present this publication collaborative effort between ICOMOS India and SMEF's Brick School of Architecture. Both institutions have joined hands to conduct this training and capacity-building program, seamlessly integrating heritage practices with academia by involving experts and students. This initiative has fostered awareness and appreciation of the critical values associated with cultural landscapes, embedding them into the academic curriculum.

This activity and publication would not have been possible without the unwavering support and encouragement from Dr. Pooja Misal, Director; Dr. Poorva Keskar, Principal; and Ar. Manali Deshmukh, Vice Principal. Their leadership has created an environment at SMEF's Brick School of Architecture, Pune, that nurtures high-quality research and learning. We extend our heartfelt gratitude to Dr. Navin Piplani, former President of ICOMOS India, and NSC ET, NSC HTV, NSC CLC, heads who supported us in the execution of this initiative.

We deeply appreciate the contributions of our esteemed experts and authors, whose intellectual engagement and inspiring interactions with students played a crucial role in completing this work. Special thanks to Ar. Suryanarayana Murthy, various experts joined from ICOMOS India such as Dr. Vaishali Latkar, NSC ET Coordinator; Ar. Saranya Dharshini; Mr. Girish Punjabi; Mr. Raman Kulkarni NSC Coordinator EPWG ; Ms. Saili Palande-Datar; From other fields such as Ar. Onkar Khebudkar; Ar. Vinita Lulla; Ar. Ramiya Gopalakrishnan; Mr. Gurudatta Ingale; and Ar. Shraddha Manjrekar, who contributed their expertise through online, offline, and on-site engagements. We sincerely appreciate Ar. Meghana Patel and Ar. Neha Ghugari for seamlessly integrating fieldwork with design application, bridging practical insights with academics. We are deeply grateful to the faculty at Brick, the administrative staff of both institutions, as well as our family and friends for their unwavering support at every stage. Their encouragement has been invaluable to us.

We are also immensely grateful to Dr. Neel Kamal Chapagain, Director of the Center for Heritage Management, Ahmedabad, and Ar. Nupur Prothi Khanna, Member of ICOMOS, for their invaluable insights and recommendations on linking academics with heritage practice. Their guidance helped contextualize the study within a global framework and enhanced the quality of our work.

A special mention goes to the 76 students who dedicated four months to this activity, participating wholeheartedly in every aspect. Their unwavering enthusiasm, along with the trust and support of their parents—especially during the challenging COVID period—enabled this research to flourish. We are particularly grateful to the student leaders who played a pivotal role in bringing this documentation to fruition: Tejas Patil, Dhruti Muzumdar, Atharva Kulkarni, Mayur Pande, Sakshi Talankar, Ishwari Patil, Rutuja Rodage, Ananya Tambe, Vaishnavi Magdum, Kaustubh Somshetti, Sanika Hirave, Aditi Landge, Om Deore, Atharv Desai, Shivcharan Dehsmukh, Anish Seth, Gaurav Bhansali, Manasi Shitoole, Meera Ingawale, Mohit Rasane, Gaurav Kankekar, Yash Pachkawade, Tanvi Loyare, Janki Joshi, Komal Karale, Ansh Kadam, and Heet Sangvi.

we are deeply indebted to the local community for their invaluable support in facilitating site access, surveys, and documentation. We extend our sincere appreciation to Pravin Desai, a researcher, ecologist, and owner of "Vanoshi Homestay." As a dear friend and guide, he played a crucial role in managing local resources, making this study possible.

This collective effort has strengthened our understanding of nature, culture journey, heritage conservation, and we hope this publication contributes meaningfully to future studies and practices in the field.

GENESIS AND INTENT

As an international body committed to the conservation of the world's monuments and cultural sites, ICOMOS's (International Council on Monuments and Sites) mission extends beyond preservation—it encompasses the dissemination of knowledge and the cultivation of awareness. This handbook is a step in that direction. The National Scientific Committee on Historic Cities, Towns, and Villages focuses on the study and conservation of human settlements at various scales. While ICOMOS India is a distinguished collective of experts from diverse fields within heritage studies, there exists a crucial need to extend this discourse to the next generation—particularly to students of architecture. By integrating them into the evolving dialogue on heritage and its broader definitions, the aim is to instil in them an appreciation for the critical role conservation plays in shaping our built environment.

The objectives of this handbook are multifaceted. One of its key aim is to introduce students of architecture to the rich and dynamic realm of cultural landscapes, encouraging them to look beyond their studio-based academic training and engage directly with the rural fabric of India. Immersing themselves in regional contexts provides them with firsthand insights into the complex interplay between architecture, tradition, ecology, and local livelihoods.

Heritage conservation is not a one-size-fits-all approach, and neither is this initiative. The documentation of Kudase village serves as a prototype, offering a model for understanding and preserving similar settlements across diverse geographic and cultural landscapes. By fostering such studies, we hope to bridge the gap between academic learning and real-world heritage conservation, inspiring a new generation of architects to become active participants in safeguarding India's rich cultural legacy.

Regional planning plays a crucial role in managing a region's economic, social, and physical resources to ensure sustainable development. In recent years, this field has garnered significant attention as urbanization, environmental concerns, and socio-economic disparities continue to reshape landscapes. Thus, it is imperative for students to transcend the studio setting and broaden their perspective at a regional scale. Integrating cultural landscapes into their architectural education will enable students to develop a holistic understanding of how the built environment influences—and is influenced by—its broader geographical and cultural context. This approach fosters a deeper sensitivity to the intricate relationships between architecture, communities, and ecosystems, ultimately shaping architects who are not only designers but also stewards of sustainable and contextually responsive development. Within our Indian natural World Heritage sites, the outstanding values embedded in culture-nature linkages are as captivating as the challenges inherent in their management. This handbook is an outcome of a documentation program over a year long engagement of ICOMOS India experts with second year students of architecture for the world heritage site of Western Ghats with a special focus on Tilari Region. It is important to note that this was unique initiative where incremental progression of knowledge building, culminated in a form of publication.

The Western Ghats, designated a UNESCO World Heritage Site in 2012, exemplifies the interconnectedness of nature and culture. This publication explores the significance of nature-culture linkages in the Western Ghats, highlighting cultural identity, sacred and spiritual significance, traditional knowledge, biodiversity conservation, and community resilience. Stretching 1,600 kilometres across south-western India, this ancient mountain range harmoniously blends breath-taking natural beauty with rich cultural heritage. The focused study area of Tilari region embodies multiple attributes, which are recognised under the Culture Nature Linages framework by UNESCO. These include Sacred and Spiritual sites, Traditional Knowledge, Biodiversity and Cultural Identity as a connotation for people by large.

The handbook

This handbook serves as a comprehensive guidance document, providing a structured framework for the documentation of cultural landscapes. Designed as a valuable reference for Bachelor of Architecture students, it bridges theoretical foundations with practical insights, enabling a deeper understanding of cultural landscapes and their significance. The compilation of research papers establishes a strong contextual background, outlining essential knowledge and methodologies, while the actual documentation serves as a case study to illustrate and validate these findings. Through this structured approach, the handbook aims to equip students with the necessary tools to analyse, interpret, and document cultural landscapes effectively.

The publication is an outcome of multidisciplinary teamwork and intense research In their subject domains of Natural Heritage, Cultural Heritage, their significance and challenges. Compiled articles by various authors ranging from academicians and professionals have build this knowledge bank which should pave way for world heritage management oriented actions in the future. It gives us pleasure to put forward this unique publication for Wider circulation and hope that this will trigger more and more such initiatives which can bring out newer aspects of heritage from multiple viewpoints.

The experts for the pre activity lecture series included Girish Punjabi, Raman Kulkarni, Surya Narayan Murthy, Vaishali Latkar, Saranya Dharshini, Sailli Palande Datar and Onkar Khebudkar. The whole process and document was reviewed by, Neel Kamal Chapagain and Nupur Prothi Khanna, experts from ICOMOS India.

The chapter on Methodological Framework by Lavand presents a detailed format for conducting such studies. This adaptable process can be employed by any architecture school cohort, allowing them to modify it based on their area of study.

Section 2 provides a comprehensive understanding of the subject. Suryanarayana Murthy introduces the overarching framework of cultural landscape studies, while Vaishali Latkar contextualizes the various academic discourses and emphasizes the need for systematic documentation.

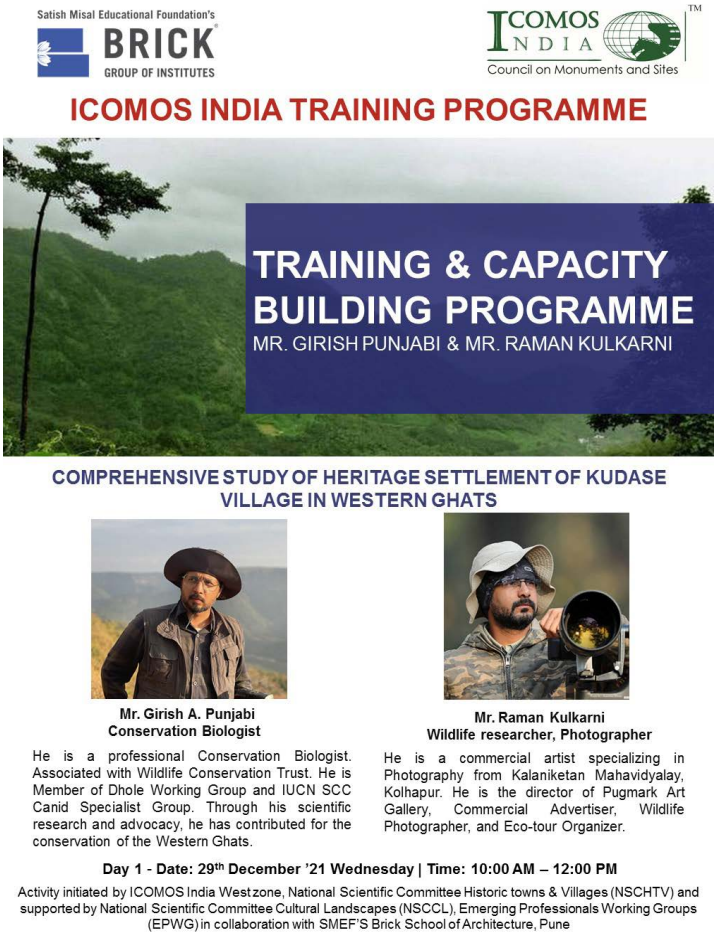
Saranya Dharshini's chapter highlights the significance of inventories and presents a meticulous methodology for heritage documentation, serving as a critical resource for structured conservation efforts.

The third section situates the study within the ecological and cultural fabric of the Western Ghats, a

UNESCO World Heritage site. Girish Punjabi, a wildlife expert, provides an insightful overview of the region's ecosystem, detailing the pressing challenges posed by urbanization.

Raman Kulkarni emphasizes the importance of natural heritage and its vital role within the larger ecological system.

The works of Saili Datar, Onkar Khebudkar, and vaidehi Lavand further contextualize the case study by offering a regional understanding of the selected sites—the Tillari region and the associated villages. Their contributions help ground the study in local realities, ensuring a nuanced approach to documentation. The final section presents a compilation of extensive documentation efforts. The study not only demonstrates the application of the proposed methodology but also exemplifies the key components of cultural landscape documentation. Through detailed analysis, this segment showcases how the outlined framework can be effectively implemented, offering a tangible reference for future research and academic exploration.





Activity posters

Address by President ICOMOS, India.



Dr Navin Piplani
ICOMOS India President

It is a privilege and delight to share my address for the training and capacity building initiative: 'Exploring nature, culture and settlements - Western ghats cultural landscape and settlement' undertaken by the SMEF's Brick School of Architecture and ICOMOS India.The activity brings to fore some of the key aspects of understanding, analysis, awareness, interpretation and appreciation of cultural landscapes in an Indian context. The event discusses some of the critical values associated with tangible and intangible aspects of cultural landscape and integrates them with architecture education and pedagogy.It is indeed vital to discuss and embed the key aspects of the natural and cultural heritage of India in an academic environment, facilitating an advanced learning of architecture students, faculty and research community. It enables the emerging architectural professionals to broaden their horizons beyond the academic curriculum and explore the inter-relationships of nature, culture and settlements, and their contribution to shaping the natural and built environment - a fundamental concept of cultural landscape.

The activities such as this one exposes students and research community in an architecture college to practical and experiential learning whilst immersing them in actual field visits, collaborative learning, thematic seminars, group workshops, expert meetings and so forth.The understanding of a 'cultural landscape' in an Indian context is unique, and it has been continuous efforts of ICOMOS India to identify and articulate the specificities of the 'Indian' attributes of nature-culture-people approach to heritage studies, conservation and management. Therefore, this collaborative initiative is an important contribution to our shared mission and objectives.

We do hope the participants will gain from a suite of academic and practical aspects planned as part of the initiative, and advance the understanding, documentation and safeguarding of cultural landscapes in India.I wish to thank the organising team members at the SMEF's Brick School of Architecture and ICOMOS India for their passion, efforts and time in designing and delivering this joint collaborative activity.

From the Principal's desk, SMEF'S Brick School of Architecture, Pune



Dr.Porva Keskar
Principal
SMEF'S Brick School of Architecture, Pune

The Tillari region, nestled within the lush and ecologically sensitive Western Ghats, is a landscape of immense natural beauty and cultural significance. Recognized as a UNESCO World Heritage site for its biodiversity and rich history, the region serves as a living testament to the harmonious interplay between human settlements and the natural environment. The cultural and ecological heritage of Tillari is a vital resource that demands thoughtful conservation and informed architectural practices. This publication is a culmination of an intensive architectural documentation and research initiative undertaken by the students ofSMEF's Brick School of Architecture. The project aimed to capture the essence of Tillari's vernacular architecture, settlement patterns, and socio-cultural landscape, contributing to the ongoing dialogue around sustainable design and heritage preservation in ecologically sensitive areas.

A pivotal component of the project was the collaboration with ICOMOS, the International Council on Monuments and Sites. Through workshops, reviews, and expert feedback, ICOMOS enriched the students' learning experience, offering critical insights into the nuances of heritage documentation and landscape analysis. This partnership not only elevated the academic rigor of the project but also instilled a deep respect for the cultural and ecological narratives embedded in Tillari's architectural fabric. The decision to turn this study into a publication underscores the importance of sharing knowledge and insights from this significant research endeavor. By documenting the findings and experiences, we aim to create a lasting resource for architects, planners, conservationists, and scholars. The publication is further enriched by insightful chapters authored by ICOMOS experts, whose contributions provide a broader global context and professional perspective on cultural landscape preservation and heritage documentation. We extend our heartfelt gratitude to ICOMOS for their invaluable collaboration and continued commitment to fostering heritage education and conservation.
We also congratulate the faculty team led by Dr. Vaidehi Lavand for their vision and determination to carry this study beyond academic submissions, turning it into a meaningful publication. Their commitment to preserving and documenting the cultural landscape of Tillari has resulted in a resource that will contribute to ongoing conversations in architectural and heritage studies. The Tillari region exemplifies a complex cultural landscape—a symbiotic blend of natural and human-made elements shaped by centuries of interaction. Cultural landscapes are critical in informing the design of the built environment, offering invaluable lessons in resilience, adaptability, and sustainability. In the face of climate change and rapid urbanization, the preservation and thoughtful interpretation of such landscapes have never been more essential.

Address by Vice Principal SMEF'S Brick School of Architecture



Ar. Manali Deshmukh
Vice Principal
SMEF'S Brick School of Architecture, Pune

India's vast and diverse geography has given rise to a multitude of cultural landscapes, each reflecting deeply entrenched value systems, technological progress, and economic interdependencies. UNESCO classifies cultural landscapes into three broad categories—defined, evolved, and associative—emphasizing their anthropological significance. However, there remains a pressing need for further exploration of these landscapes through the lens of cultural geography to better define and preserve their intrinsic resources.I extend my sincere gratitude to ICOMOS for providing our second-year students at SMEF's Brick School of Architecture, Pune, with this enriching learning opportunity. Their conservation and heritage guidelines established a structured framework for students to conduct systematic research on the unique cultural and natural landscape of the Tilari region.Nestled within the Western Ghats, a UNESCO Natural Heritage site, the Tilari region is celebrated for its ecological richness and distinctive geographic features. Through extensive field visits, photographic documentation, and interviews with local communities, our students meticulously gathered data. Their research centered on the symbiotic coexistence of human habitation and the natural environment in this bioregion, analyzing its transition in response to contemporary changes. This exploration allowed students to discern the intricate interconnections between biodiversity, settlement patterns, and socio-cultural fabric, shaping a comprehensive understanding of cultural landscapes. This study also enabled the students to grasp the influence of urban parameters on cultural heritage and the evolving dynamics between nature and human intervention.

Iexpress my heartfelt appreciation to Dr. Vaidehi Lavand, our esteemed senior faculty member and an ardent scholar in cultural heritage studies, for her unwavering mentorship and guidance throughout the documentation process and studio learning. Her dedication, alongside the faculty team, ensured a well-rounded academic approach to this study. Moreover, Dr. Vaidehi spearheaded the initiative of transforming the studio learnings into a joint publication with ICOMOS, further emphasizing the academic significance of this endeavor.

I also acknowledge the invaluable contributions of Ar. Poonam Trambadia in facilitating the documentation process. Special thanks to our distinguished contributors—Ar. Niyati Jigyasu, Surya Sir, Dr. Vaishali Latkar, Ar. Saranya Dharshini, Mr. Girish Punjabi, Mr. Raman Kulkarni, Ms. Saili Palande, and Ar. Onkar Khebudkar—who provided essential expertise on themes including cultural landscape documentation, natural heritage management, settlement patterns, and the interplay between culture and ecology.

As a Vice Principal of SMEF's Brick School of Architecture, I take immense pride in this publication and in our students' unwavering commitment to cultural documentation. This collaborative endeavor underscores the importance of preserving and studying our diverse heritage. I eagerly anticipate continued engagements with ICOMOS India and further contributions to the broader discourse on cultural heritage conservation in India.



INTRODUCTION

1. Nature, Culture and Settlements
Studying nature, culture and settlement Handbook

Niyati Jigyasu, Poonam Trambadia

The intricate relationship between culture and landscape is a profound one, with each influencing and shaping the other in complex ways. This symbiotic bond is evident in the way cultural practices, traditions, and values are embedded in the physical landscape, and conversely, how the landscape itself shapes cultural identity and expression. Human activities, such as agriculture, architecture and art, rituals and traditions, leave lasting impressions on the landscape, reflecting the cultural values and beliefs of a community forming fascinating cultural imprints. Cultural growth is influenced by natural factors like climate, geography, and natural resources; shaping the way people live, work, and interact. In turn, landscapes often hold spiritual, historical, or symbolic significance, conveying stories and myths that are integral to a culture's identity and heritage. The unique combination of cultural and landscape characteristics creates a distinct sense of place, fostering a deep connection between people and their environment, creating a culture nature narrative.

Nature Culture Imprint:

The confluence of Nature Culture leave visible and invisible marks on the natural environment by human cultures, reflecting their unique relationships, interactions, and dependencies on nature. The lasting impact of human activities, values, and beliefs on the physical landscape leave a distinct Imprint on the environment, reflecting their distinct characteristics, traditions, and ways of life.

Physical Imprints of human-altered landscapes, such as urban centres, Buildings, monuments, and other structures that reflect a culture's aesthetic, technological, and social values result into Architectural manifestations with Murals, sculptures, and other forms of public art that express a culture's creativity, values, and identity forming Artistic imprints. Farming practices, irrigation systems, and crop selection that shape the landscape and reflect a culture's relationship with the land in the Agricultural Imprints; on the averse, Ecological Imprints are formed by human impacts on ecosystems, including deforestation, pollution, and climate change. Administration and management, City systems, transport and infrastructure leave a socio-politico-economic imprint. Cultural meanings and values assigned to natural features, like sacred mountains, rivers, or forests, Landmarks, Places of religious/spiritual importance, memorials, and other features that hold spiritual, historical, or emotional significance for a culture create symbolic Imprints.

All indigenous communities and early civilisations hold cultural imprint is distinct and reflective of unique culture's values and traditions but also holds evidence of influences from cross cultural interchange and their understanding and response to nature. These imprints can be long lasting, enduring for generations and shaping the identity of a place. Though, Deeply rooted in their cultural and environmental context yet Cultural imprints can evolve over time, reflecting changes in cultural values, technologies, and societal norms.

By recognizing and appreciating cultural imprints, we can gain a deeper understanding of the complex relationships between cultures, landscapes, and environments.

The Importance of Cultural Landscape can be summarised as below:

Preservation of Heritage and Identity

Cultural landscapes reflect the historical, social, and economic development of a society, by embodying traditional knowledge, customs, and ways of life that are crucial for cultural identity.

Understanding Human-Environment Interaction

Cultural landscapes showcase how humans adapt to and modify their surroundings. They help in studying sustainable practices used by past societies that can be applied today.

Contribution to Tourism and Economy

Many cultural landscapes are significant tourist attractions, boosting local and national economies.

Sustainable Development and Planning

Cultural landscapes guide urban planning and rural development by integrating heritage into modern life. They promote sustainable land use and biodiversity conservation.

Social and Cultural Significance

They serve as symbols of community identity and belonging. Cultural landscapes often reflect religious, spiritual, or artistic significance.

Educational and Research Value

They provide a rich source of knowledge for historians, geographers, archaeologists, and other scholars. They help in understanding cultural evolution and the impact of colonization, migration, and trade.

Biodiversity and Ecological Value

Many cultural landscapes support traditional agricultural systems that preserve biodiversity.

Landscape as Cultural Narrative

Landscapes convey stories, myths, and meanings that are integral to a culture's identity, history, and values. Landscapes are not just physical environments, but also carriers of cultural narratives that shape an understanding of once selves, our communities, and our place in the world. They are imbued with symbolic meanings that reflect a culture's beliefs, values, and traditions, which can be seen as having a narrative structure, that tells a story about a culture's history, myths, and legends. Landscapes play a crucial role in shaping cultural identity, as they provide a sense of belonging, continuity, and connection to a shared heritage. Depending on the social ideologies the former can have multiple narratives and meanings, reflecting the diverse perspectives and experiences of different cultural groups.

The subject of Cultural Landscape is highly important in various fields such as geography, anthropology, architecture, urban planning, heritage conservation, and environmental studies. It refers to landscapes that have been shaped by human interaction with the environment over time, reflecting cultural values, traditions, and historical developments. As an academic term, cultural landscape goes back to Friedrich Ratzel (1895–1896), and was in frequent use among other German geographers in the early 20th century. The term was introduced to the English-speaking world by Carl O. Sauer (1925) and became central in the work of the Berkeley school of geography. The term was initially used in the Nordic countries during the interwar period, but became increasingly used in other disciplines from the 1960s.

Cultural Preservation recognises landscapes as cultural narratives and highlights the importance of preserving cultural heritage and traditional knowledge. Understanding the cultural significance of natural landscapes can inform more sustainable and culturally sensitive environmental practices. Engaging with local communities and indigenous peoples is essential for understanding the cultural narratives embedded in landscapes. Studying landscapes as cultural narratives requires an interdisciplinary approach, combining insights from anthropology, ecology, history, literature, and more.

Studying the reciprocal influence between culture and landscape requires an interdisciplinary approach, combining insights from anthropology, ecology, geography, history, and

more.

Within the ICOMOS perspective
The term "cultural landscape" was introduced to the International Council on Monuments and Sites (ICOMOS) in 1992. This was during an international conference on rural heritage hosted by ICOMOS and ICOMOS Germany.
In 1992, UNESCO's World Heritage Committee adopted revised guidelines that allowed cultural landscapes to be protected under the World Heritage Convention.

UNESCO recognise and protect cultural landscapes as World Heritage Sites. The first site recognized by UNESCO was Uluru-Kata Tjuta National Park (Ayers Rock/The Olgas) in Australia, which was re-inscribed as a cultural landscape in 1994. The inscription helps with conservation efforts that can ensure the safeguarding of traditional practices and historic environments for future generations.

ICOMOS Charters associated with cultural landscapes:

ICOMOS has played a crucial role in defining and guiding the conservation and management of cultural landscapes. As an advisory body to UNESCO, It has developed various charters and guidelines that contribute to the understanding, protection, and sustainable management of cultural landscapes worldwide. Below are the key ICOMOS charters relevant to cultural landscapes:

1. ICOMOS Florence Charter (1981) – Historic Gardens

This charter focuses on the preservation and management of historic gardens, which are considered living monuments. Defines a historic garden as an architectural composition made up of both natural and human-made elements. Highlights the importance of respecting the original design, materials, and cultural significance of gardens. Stresses the need for proper maintenance, documentation, and restoration methods.
It recognizes historic gardens as cultural landscapes that require protection.
Promotes conservation practices that maintain the authenticity and integrity of gardens and parks.

2. ICOMOS Washington Charter (1987) – Conservation of Historic Towns and Urban Areas

Provides principles for conserving historic towns and urban landscapes. Emphasizes the need to integrate conservation with urban planning. It advocates for maintaining the traditional character of historic cities while allowing for modernization in a sustainable way.

Recognizes urban landscapes as part of the broader cultural landscape framework. Highlights the need to balance historic preservation with urban development.

3. ICOMOS Charter on Cultural Routes (2008)

Defines cultural routes as heritage corridors that connect different cultural landscapes. Focuses on the historical interactions, exchanges, and movements of people, goods, and ideas. Encourages the recognition, conservation, and sustainable management of cultural routes.

The charter recognises linear cultural landscapes shaped by trade, pilgrimage, and migration (e.g., the Silk Road, Camino de Santiago). Promotes integrated management of landscapes influenced by human movement.

4. ICOMOS Québec Declaration on the Preservation of the Spirit of Place (2008)

Introduces the concept of "spirit of place", which includes tangible and intangible cultural heritage elements. Emphasizes the role of memory, identity, and local communities in cultural landscape conservation. It advocates for community involvement in safeguarding cultural landscapes.

The charter recognises that landscapes are not just physical spaces but also hold meanings, traditions, and spiritual values. Encourages the engagement of indigenous and local communities in conservation efforts.

5. ICOMOS Valletta Principles (2011) – Historic Cities and Landscapes

Aims at integrating urban heritage with contemporary urban planning. Encourages sustainable urban development that

respects cultural landscapes. Stresses the importance of social, cultural, economic, and environmental sustainability in landscape conservation.
Emphasizes the need for a holistic approach to cultural landscape management, including urban and peri-urban areas. Highlights how urban expansion affects historical landscapes.

6. ICOMOS Florence Declaration on Landscape (2014)

Reinforces the idea that landscape is a cultural construct shaped by human activities. It calls for an interdisciplinary approach to cultural landscape conservation. Encourages international cooperation to protect cultural landscapes.

Stresses that landscapes are dynamic and constantly evolving. Encourages an integrated perspective on cultural and natural heritage conservation.

7. ICOMOS Principles Concerning Rural Landscapes as Heritage (2017)

Recognizes rural landscapes as key components of cultural heritage. Focuses on the protection of traditional agricultural practices, farming communities, and rural settlements. It calls for policies that balance rural development and heritage conservation.

Highlights the role of traditional knowledge systems in shaping rural landscapes.
Supports sustainable agricultural practices to maintain the continuity of rural landscapes.

Interdisciplinary Research, Documentation and mapping

Interdisciplinary research approaches involve combining multiple disciplines, theories, and methods to study complex phenomena. This approach recognizes that many research questions cannot be adequately addressed within the boundaries of a single discipline. By integrating insights and techniques from multiple fields, researchers can gain a more comprehensive understanding of the research topic.
It provides a comprehensive understanding of the complex relationships between culture, landscape, and resilience, by incorporating insights from various disciplines, to identify patterns, relationships, and dynamics that might be overlooked through a single disciplinary approach. Interdisciplinary research approaches are particularly well-suited to addressing complex, multifaceted problems that require insights and expertise from multiple disciplines. This, encourages the development of innovative methods and tools, such as participatory mapping, cultural landscape analysis, and resilience assessment frameworks.

Documentation is essential for capturing and preserving the knowledge, experiences, and perspectives of communities and individuals. In the context of culture, landscape, and resilience, documentation helps to record cultural practices, traditions, and knowledge and eco systems. Long-term documentation enables researchers to track changes and trends in cultural landscapes, resilience, and environmental conditions. It provides valuable insights for conservation and management efforts, helping to ensure that interventions are culturally sensitive and effective.
The most common methods used include Mixed-methods approaches: Combining qualitative and quantitative methods, such as surveys, interviews, observations, and spatial analysis, to capture a comprehensive picture of cultural landscapes and resilience. Participatory research: Collaborating with local communities and stakeholders to ensure that documentation is accurate, relevant, and respectful. And presently utilising digital and AI tools, such as GIS mapping, photogrammetry, and multimedia storytelling, to create interactive and immersive documentation of cultural landscapes and resilience.

These have varied application for informed heritage conservation preservation of cultural heritage sites, monuments, and landscapes. Helps in understanding the complex relationships between culture, landscape, and resilience can inform sustainable development initiatives, such as eco-tourism, conservation, and climate change adaptation. Documentation of cultural landscapes and resilience can help identify areas of high vulnerability and inform disaster risk reduction strategies. Multidisciplinary research and documentation can empower local communities to take ownership of their cultural heritage and resilience,

promoting community-led conservation and management initiatives. Documentation of cultural landscapes and resilience can help identify areas of high vulnerability and inform disaster risk reduction strategies. Multidisciplinary/ interdisciplinary research and documentation can empower local communities to take ownership of their cultural heritage and resilience, promoting community-led conservation and management initiatives.

Documenting Cultural Landscapes

1. Photography: Capture high-quality images of the landscape, including its natural and cultural features.
2. Video Recording: Document the landscape through video, including interviews with local communities and stakeholders.
3. Field Notes: Record detailed observations and notes about the landscape, including its history, cultural significance, and environmental features.
4. Oral Histories: Collect stories and experiences from local communities and stakeholders about the landscape and its cultural significance.
5. Archival Research: Conduct research in archives, libraries, and other repositories to gather historical documents, maps, and other records related to the landscape.
6. Measured Drawings and Condition details on ground help understand the physical condition of the structure/ site and on ground situations.
7. Research and mapping can involve participatory, comparative and/or case study approaches.

Mapping Cultural Landscapes

1. GIS Mapping: Use Geographic Information Systems (GIS) to create detailed maps of the landscape, including its natural and cultural features.
2. Participatory Mapping: Involve local communities and stakeholders in the mapping process to ensure that their knowledge and perspectives are included.
3. Cultural Landscape Mapping: Use specialized mapping techniques to identify and document cultural landscape features, such as traditional land use patterns, spiritual sites, and cultural trails.
4. Historic Map Analysis: Analyse historic maps to understand how the landscape has changed over time and how cultural practices have shaped the environment.
5. Remote Sensing: Use remote sensing technologies, such as satellite imagery and aerial photography, to gather data about the landscape and its cultural features.
6. Anthropological, Geographic and Ecological Mapping making it interdisciplinary to get an overall picture

Tools and Technologies

1. Traditional measuring tools and survey equipment
2. GIS Software: Use GIS software, such as ArcGIS or QGIS, to create and analyse maps of the cultural landscape.
3. Mobile Apps: Use mobile apps, such as Fulcrum or Survey123, to collect field data and conduct participatory mapping exercises.
4. Drones: Use drones to capture aerial photography and video of the landscape and its cultural features.
5. 3D Scanning: Use 3D scanning technologies to create detailed digital models of cultural landscape features, such as buildings or monuments.
6. Online Platforms: Use online platforms, such as Story Maps or Google Earth, to share maps and stories about the cultural landscape with a wider audience.

Best Practices

1. On ground physical measured drawings and surveys: To gain understand of the site and surroundings in the present context.
2. Community Engagement: Engage with local communities and stakeholders throughout the documentation and mapping process to ensure that their knowledge and perspectives are included.
3. Collaboration: Collaborate with other researchers, practitioners, and stakeholders to share knowledge and expertise and to ensure that the documentation and mapping process is comprehensive and accurate.
4. Cultural Sensitivity: Be culturally sensitive and respectful throughout the documentation and mapping process, recognizing the cultural significance and value of the landscape and its features.
5. Data Management: Manage data carefully, ensuring that it is accurate, reliable, and secure, and that it is shared

and used in a responsible and ethical manner.

6. Long-Term Preservation: Ensure that the documentation and mapping data is preserved for the long-term, using formats and storage solutions that are durable and accessible.

2.Methodological Framework For the Study

Vaidehi Lavand ,Niyati Jigyasu, Poonam Trambadia

Abstract:

In architectural education, bridging the gap between theory and practice has always been crucial. Different types of learners require specific tools and methodologies to effectively grasp the subject matter. The second-year syllabus of architecture under Pune university emphasizes understanding Architectural Design as a process involving the generation of design briefs and making design decisions based on nine aspects. Among these, 6 aspects of study such as Socio-Cultural dynamics, Anthropometry & Function, Climate considerations, Building Materials, Construction Technology, and Site analysis are identified as significant criteria for studying settlements in relation to nature, culture, and people.

The case study selected focuses on the journey of nature and culture and their influence on the evolution of local architecture. The Tilari bioregion, renowned as a biodiversity hotspot but less studied for its local architecture and nature-culture journey, was chosen for this study. A multidisciplinary approach was adopted, bringing together various experts to expose architecture students to different facets of the study. The methodology employed in the study aimed to contextualize the discourse on nature and culture globally and raise awareness among architecture students about local architecture. It explored the evolutionary process and the enduring impact of a robust natural environment and cultural heritage evolved as a process over many centuries.

Introduction:

Experiential learning is often preferred to cater to the needs of visual, auditory, reading/writing, and kinesthetic learners (Callie Malvik, 2020). Theoretical framework, experts' inputs, experiential learning with onsite experience helped in the holistic teaching pedagogy adopted for this study.

Flowchart Figure 1 delineates the methodology for the entire study, beginning with an inductive- Deductive approach focused on data collection and involving experts from diverse fields. The study of the settlement applied a combined inductive-deductive approach for the second-year design studio (Linda N. Groat, 2013).

Methodology:

Inductive Approach & Deductive Approach



Figure 1 Flowchart explaining process followed at a broader level bridging syllabus and Nature Culture in design studio made by Vaidehi Lavand



Figure 2 Flowchart explaining stages followed for the execution of the activity made by Vaidehi Lavand

Above flowchart Figure 2 outlines the main stages of the conducted activity. The study titled "Comprehensive study of heritage settlements in Western Ghats" focused on Kudase village, Dodamarg Taluka, Sindhudurg district, Maharashtra, exploring the relationship between Nature, Culture, and people, culminating in Built heritage. Local Architecture was viewed as a dynamic process, reflected in the settlement patterns.

The aim was to approach settlement study comprehensively, bringing together experts from various disciplines to provide Architecture students with a holistic understanding. A pre-study webinar set the context, emphasizing natural, ecological, Indological, and heritage aspects, with experts from the region invited to elaborate.

Stage 2 involved the actual field visit and study conducted with 5 academicians and 76 students, despite the challenges posed by COVID-19 restrictions. Permissions and resource accessibility were managed through local assistance and proactive communication. Mr. Pravin Desai, who operates Vanoshi Homestay and ecological center, played a crucial role as a liaison between the team and the village locals.

The timeline of activities was as follows:

- Pre-activity webinars: December 29th, January 4th, 5th (online and offline modes)
- Field activities: January 7th, 8th, 9th, 10th, 2022
- Post-activity webinars: January 17th, 18th, 19th
- Compilation of documentation in the design studio: January 11th to 31st

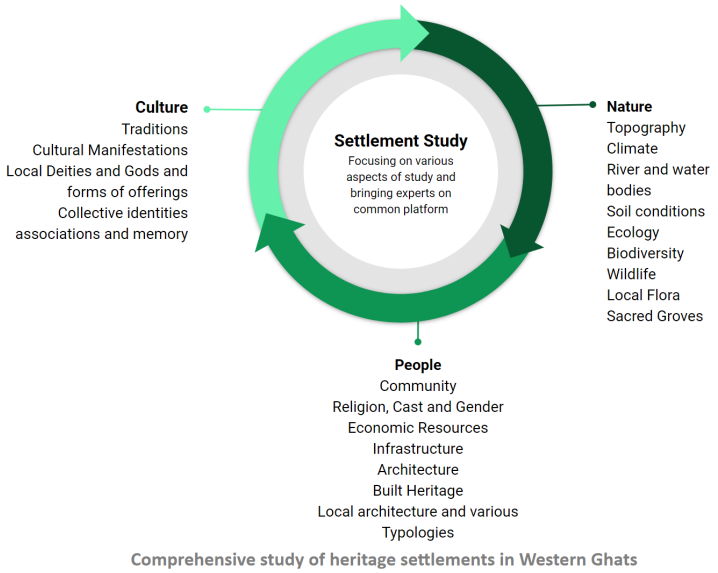


Figure 3 Chart explaining interlinkages between Nature Culture and People and different attributes at a broad level tried to map for the study made by Vaidehi Lavand

Figure 3 above illustrates the study of interconnections between Nature, Culture, and people on site, and the methodology developed to study settlements and apply the knowledge gained in the second-year studio. Before proposing this approach, extensive discussions were held to define what constitutes Natural Heritage and the criteria that define it. UNESCO guidelines and case studies were instrumental in understanding the current state of Natural Heritage. The Tilari bioregion, a UNESCO-nominated Natural Heritage site in the Western Ghats, was considered as a relevant case study due to its strong connections between nature, culture, and people, influencing the evolution of settlement patterns over centuries(UNESCO World Heritage Centre - World Heritage List).

The study focused on how communities are intricately linked with the natural and ecological settings, shaping local heritage through these connections. Key natural attributes such as topography, climate, rivers and water bodies, soil conditions, ecology, biodiversity, wildlife, local flora, and sacred groves were considered.

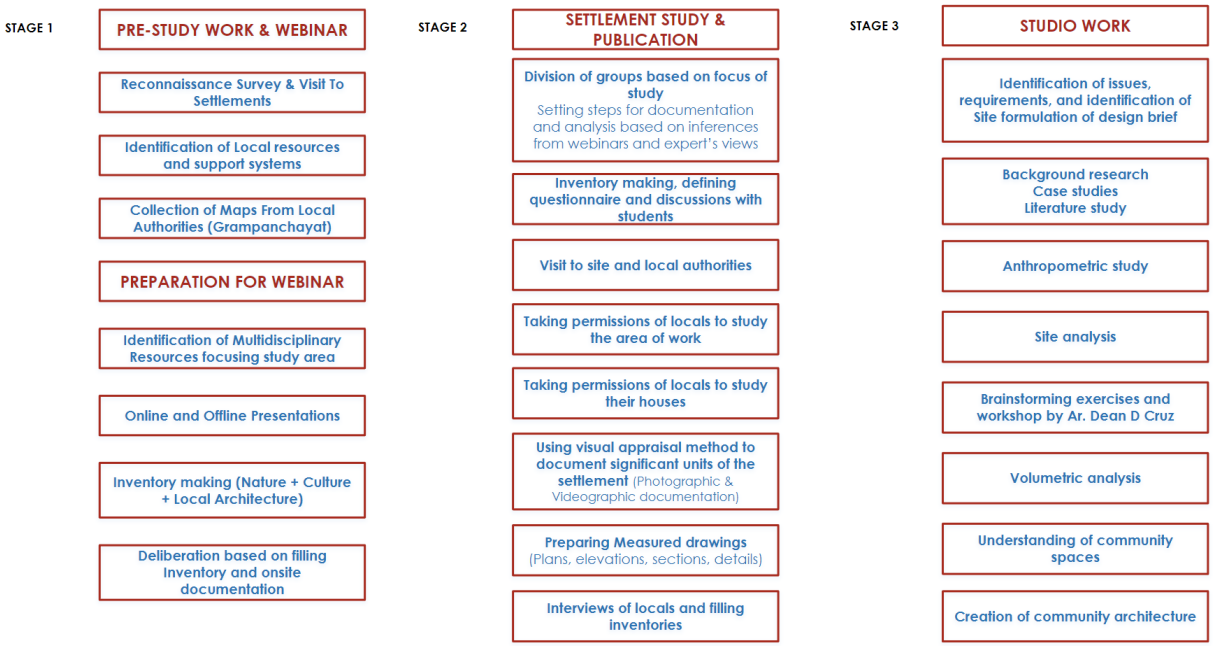


Figure 4 Stages of study and details of the study conducted flowchart made by Vaidehi Lavand

In terms of people, the study explored historical processes, maritime trade, migrations, and the roles of local tribes in shaping tangible and intangible cultural attributes. It also delved into understanding communities across various religions, castes, gender roles at the settlement level, and the role of economic resources and occupations. The evolution of infrastructure catering to communities over centuries, its contemporary transitions, urbanization processes, and the challenges of inadequate facilities were documented (Liu et al.) (Shankar, Cities as Repository of Vernacular Traditions; Himalayan Settlements of India and Nepal) (Shankar, 2012).

The study also documented local architecture, built heritage, and various typologies as reflections of the amalgamation of nature, culture, and people over time. This theoretical framework, supported by expert input, facilitated the development of a comprehensive inventory format that was user-friendly for students to apply on site. Architect Ramiya Gopalakrishnan, under the mentorship of Dr. Vaishali Latkar, contributed to the development of this inventory format, which was presented to students to enhance their understanding of these complex interrelationships.

Figure 4 above details the thorough planning and execution of stage-wise work conducted on site. Pre-study webinars, fieldwork, and collaboration with design studio faculties facilitated the integration of study and design work. Faculty members from SMEF's Brick School of Architecture, including Ar. Meghana Patel, Ar. Vinita Lulla, Ar. Neha Gosavi, and Dr. Vaidehi Lavand, designed small assignments to enhance connections between design principles and the on-site study conducted catering bridging study and design studio.

Table 1 Table explaining schedule for the activity and experts' interaction with students made by Vaidehi Lavand in collaboration with Niyati Jigyasu and Poonam Trambadia

Table 1 above was created collaboratively and after discussions to outline the comprehensive webinars and inputs, both online and offline, that enriched the study

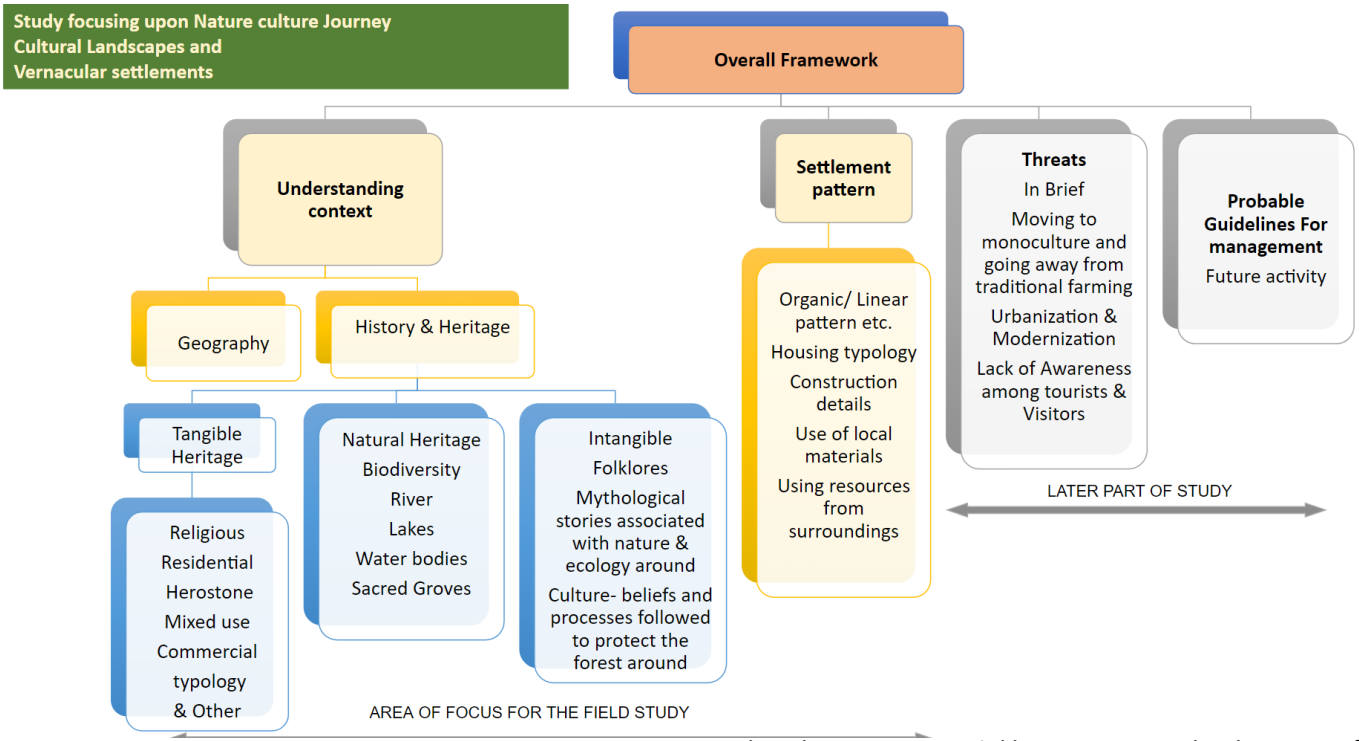


Figure 5 Chart explains overall Framework for the study made by Vaidehi Lavand

Figure 5 above presented a comprehensive study framework to students, aimed at understanding the specific context and attributes of settlement at Kudase. Detailed discussions covered various aspects such as the history of the place, settlement patterns, and briefly touched on the challenges currently faced by these indigenous settlements. Additionally, potential guidelines were explored to address the current needs of the residents in that area.

Conclusion

Studying facilitated the collection of data and comprehension of settlements from diverse viewpoints, enhancing the integration of study into the design studio. The students from this particular cohort underwent their first year in an online format. Engaging in on-site activities significantly aided their exploration and understanding of various topics outlined in the curriculum, such as Socio-Cultural aspects, Anthropometry & Function, Climate considerations, Building Materials, Construction Technology, and Site analysis. This hands-on experiential learning proved to be a transformative experience for everyone involved, fostering lifelong learning. Furthermore, this experience cultivated a heightened sensitivity toward nature and culture-driven design approaches. The study aimed to foster design concepts centered around the utilization of natural materials and the creation of inclusive, interactive socio-cultural spaces. Many students from this particular batch are considering heritage practice as their future profession, intending to delve deeply into this field.

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3.Framework for Cultural Landscape and Documentation

Suryanarayana Murthy

Abstract

The diverse geographical and settlement conducive environment in Indian peninsula has resulted in a variety of cultural landscapes. Its value structure, technological advancements and linkages between culture and economy are reflected in the cultural landscape of India. India is a juxtaposition of several such characteristics that become the building blocks of these landscapes.

UNESCO categorizes landscapes as defined landscapes, evolved landscapes and associative landscapes. While these all focus on cultural anthropology, they leave a need for deeper understanding of defining and recognizing the resources stemming from cultural geography. The subjects of ecology and ekistics provide excellent guidelines for identifying and defining elements that define a cultural landscape in the forms of settlement and ecosystems.

Sustainable development is invariably connected to conservation management of Cultural landscapes and need to be integrated in the policies and the governance without losing sight of the significant resources that make these landscapes unique in the first place. Owing to the diversity in cultural landscapes within the subcontinent, each culturavl landscape needs a localized solution and management but the process of identifying these solutions can be comprehensive. This paper discusses three cultural landscapes: City of Varanasi, Srirangam temple-town and Cultural Landscape of Majuli, that fall on the floodplains of three major rivers of India. It elaborates their significance, management setup and policies concerning the implementation using tools of ecology and ekistics theories.

Key words:

Cultural Geography, Cultural Anthropology, Cultural landscape, Typologies of Indian Cultural Landscapes, Living heritage, Historic cultural Landscapes, Vernacular architecture, Heritage Conservation, Sacred Landscape, Conservation management, Ecology, Ekistics, Environment and Sustainable Development

Introduction

The varying geography and the extent of its perceived landscape have prompted the rise of distinct cultural landscapes in India. The geographical features, archaeology, faiths, traditions (Thakur, 2012), hierarchy and values, economical and administration systems that are a result of the indigenous people's interaction with the environment over centuries, contribute to significance of these regions. Even the value structure, the technological advancements and the linkages between culture and economy are reflected in the Cultural Landscape of India (Grover, 2004).

Many of these cultural landscapes have survived the test of time, distinguishing it from the developed western World i.e. Living heritage (Sinha, 2018). India is a lived landscape where the focus may be on a particular temple, hillock or shrine but sets itself in a wider frame (Eck D. , 2012). Its living heritage encompasses traditions living in memories, repeated in rituals, and renewed in skills passed from generations, categorized as intangible heritage that is embodied in everyday acts and spaces regenerated over time (Sinha, 2018).

Differing cultural landscapes require differing forms of management plans, keeping in view that the administration of the country is divided into different levels and its variables, each overlapping with the traditional and religious setups. These authorities when in conflict can create unexpected problems in the continuing way of life. This paper discusses the various authorities who are responsible for the holistic development and continuity of the cultural landscape.

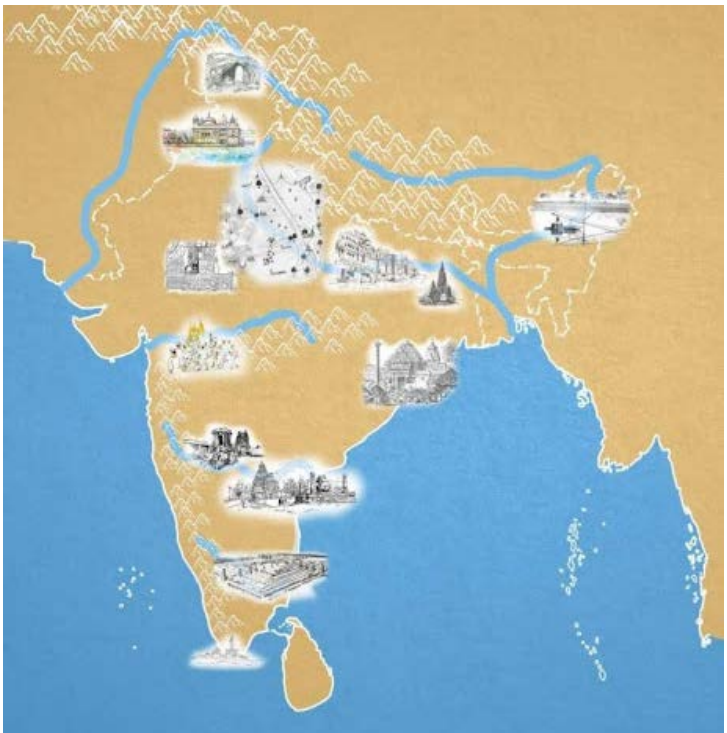


fig 1: Cultural Landscape in India

Methodology

This study explores the authorities responsible in the management of cultural landscapes, which tend to be larger sites than monument precincts and may or may not spread across various jurisdictions and have multiple stakeholders. It is conducted using three case studies along the banks of three major rivers of India. Administrative setups of these cultural landscapes in India were studied, keeping in view the immediate needs and issues concerning the people and the landscape. These investigations were carried out through the secondary sources, including but not limited to dossiers, official gazettes, official records, official district websites, development authority websites, published papers, compendiums of papers on cultural landscapes.

Idea of India as a Cultural Landscape

The Cultural Landscapes of India has warranted several forms of explanations, aptly so as it is of a diverse nature. This section discusses the ideas repetitively used to explain Indian Cultural Landscapes by different authors. These ideas revolve around people, place and time, which together form and contribute in analyzing aspects of the same.

Diverse Geographical Features

One of the factors that makes India a suitable place for different types of cultural landscapes to be nurtured, is because of the various geographical features it has. This awareness is apparent in the folklores, myths and epics told and retold from generation to generation.

For example, even the common belief, that India is made up of seven rivers, is a folklore, the understanding of 'Bharata' as an entity, remains (Eck, 2012). So the natural features and identified elements remained relatively constant throughout people's lifetimes and hence would become an inherent part of their identity. The reverence for genius loci manifests itself in innumerable forms from building temples to preserving sacred groves (Sinha, 2011).

Cultural Plurality

Coming from diverse faiths, the sacred geographies created by diverse Indian communities may differ from each other, but the understanding of the extent and properties of the landscape remain largely the same (Thakur, 2011). These diverse interlinked cultures, sometimes irritable (Khilani, 2003) but live symbiotically together. (Thakur, 2011) The stark differences in the rural and the urban might make the idea of singular India obscure, but these diverse ecological systems, linguistic communities are unmistakably and apparently intertwined with each other (Sinha, 2011).

Religious Stronghold

Settlements in India, ranging from villages to Metropolitan cities, regardless of how agrarian or how modern are not only diverse and dramatic but are alive with myths and stories (Eck, 2012). The common thread that ties the various cultural groups and ecological systems are these landscape patterns that appear around places commonly venerated as sacred sites, that attracts pilgrims and construction of temples (Sinha, 2011). These, though geographically apart are stitched together with stories and art that have been regularly recreated over ages.

Mimesis

Recurring formal patterns can be found across art and architecture of India, throughout the subcontinent, in various time periods (Sinha 2011).The traditional houses are designed according the vastu purusha mandalas, Varanasi follows the Kashi mandala and the sacred sites at Chitrakuta fall in three interlocking triangles. These are mimetic forms of both cosmic forms and processes represented in our design vocabulary (Sinha 2011). This mimesis creates a compelling pattern, directing the pilgrims in the sacred landscape (Sinha 2011).

Identity

The name 'Bharata' or 'Bharat' in Hindi is an indigenous name used to describe roughly the extent of India that it is today and has remarkably been used since the time of Mahabharata (Eck 2012). The idea of it being land of Seven rivers, bound by Himalayas on the north and that resonates throughout the entire nation in forms of stories is itself an indication that there is a sense of belonging ingrained in the people of India. Among these are several smaller landscapes which have a distinct characteristic and lend the people their identity and a sense of belonging.

Cognitive and Behavioural Aspects

The landscape, in the view of the locals and the pilgrims is built up of rituals and the activities that are firmly established in the region through a long period in time. People learn to become a part of this culture and later in their life hand this it over to their children in the form of traditions. How the landscape is perceived decides the way in which people orient themselves in the landscape. These mental maps are very perceptive in the activities and the geographical stories that are put together through myths. According to Rana P.B. Somgh (1995) these are called faithscapes.

Temporal and Dynamic

The cultural landscape is, like a living organism, always evolving, changing. The only thing htat is constant about them is this dynamism, which is enforced through various patterns and symbols. Temples, which are supposedly a smaller replica of the universe, are meant to gather positive energies from it, provide us with this expression of dynamism within the larger cultural context (Sinha 2011).

Definitions

A few attempts have been made by the following authors, who coming from different fields of expertise have written extensively and are authorities in the field of Cultural landscape theory in India. These definitions revolve around the ideas that people, place and time when together create culture that is manifested on the land, creating a cultural landscape.

"The ICL is a repository of the collective perceptions of geography, where memory, information and imagination converge to shape the landscape through imagination, realisation, memorisation and continuity and finally revelation. The physical form of the landscape that survives has the capacity to regenerate itself when associations, ideologies and continuity are re-established to engage the contemporary minds of the people." - Rana PB Singh (2017).
"Indian Cultural Landscape (ICL) is envisioned as amalgamated mosaic of mental construction, visual exposition, memorial repositories, monumental structures, physical existence, ritual happenings, cultural traditions, and several of their associates and auxiliaries that result into a complex web of a collection of religious, cultural and physical meanings ascribed to geographical components through collective memory, planted on the ground (shaped in the landscape) in active engagement with communities over generations." -Nalini Thakur (2011).

"Landscapes are more than physical settings as containers and go beyond merely facilitating human activities. They can be read, that is, observed and interpreted as representations – that encode meanings. They represent cultural narratives, communicating central tenets of culture and ways of life. They are also experienced through the senses are far richer and more complex than linguistic texts. They are dynamic entities, evolving and transforming with time. Unless landscapes are frozen in time or undergo a radical rupture with the past caused by natural or human disasters, they may be considered as palimpsests with traces of the past visible under new human inventions." – Amita Sinha (2011)

Categories of Cultural Landscapes

The List of World Heritage Sites in India which has 36 sites inscribed includes only one Cultural landscape, i.e. the Bhimbetka Rock shelters, while only two more, the Apatani Cultural Landscape, and River Island of Majuli in midstream of Brahmaputra River are in the tentative list. Whereas India is home to many more typologies of cultural landscapes like Kishkinda, Braj Bhumi, etc. where one Cultural Landscape might be vastly different from the other.

UNESCO Cultural Landscape Categories

Cultural Landscapes fall into three main categories namely:

Clearly defined landscape

This category is the most easily identifiable as it has been created intentionally. This type of landscape can be found in the gardens, parkland landscapes and are often associated with religious and monumental ensembles. E.g., Mughal gardens of Kashmir, and the cities of Jaipur and Chandigarh.

Organically evolved landscape

This results from an initial social, economic, administrative, and/or religious imperative and has developed its present form by association with and in response to its natural environment. Such landscapes reflect that process of evolution in their form and component features. They fall into two sub-categories:

1.A relict (or fossil) landscape is one in which an evolutionary process came to an end at some time in the past, either abruptly or over a period. Its distinguishing features are still visible in form. E.g., Bhimbetka Cultural Landscape

2.Continuing landscape is one which retains an active social role in contemporary society closely associated with the traditional way of life, where it is still in progress and exhibits evolution. E.g., Braj and Varanasi

Associative cultural landscape

These landscapes become cultural landscapes by the virtue of powerful association in the form of religious, artistic or cultural associations of the natural element as opposed to the material evidences. Thus the Intangible culture is a binding factor in these type of landscapes.

Cultural Landscapes of India

In the Indian context, the classification of Cultural Landscapes has to be categorically defined taking into consideration their heterogeneous typologies of structures, landscapes and especially living heritage as each requires a different approach to preserve them for posterity (Sinha 2018).

This may be done on the basis of their characteristic features as follows:

(i) Physical Geography (Landscape) such as terrain, integral mountains, integral or at least significant rivers/water in the landscape, minerals, soils, flora and fauna influenced regions, Places and settlements, physical survival factors; bio-cultural;

(ii) Cultural Geography -

a. Social Geography – Lifestyle; Beliefs, Religion and Rituals (important dimension of religiosity/ sanctity/ holiness); significant for group identity; Language and Literature; Food; Art, paintings textiles; Significant social survival factors; significant resident population; Education/ Institutional;

b.Economic Geography – Agriculture, activities and Industries generating Economy, primarily industrial;

c.Architectural Geography -Settlement pattern (towns or villages), historic urban landscapes; housing pattern; Significant Aesthetic Quality; buildings, often large; Ornamental gardens/parks

d. Political Geography - Administration/Politics, Military Landscape

e. History – Layers of people and practices on the same land

f. Archaeological Geography

(iii) Networks - travel and trade routes, migration patterns

Case Examples

We will look at three cultural landscapes in close proximity of three major rivers of India i.e. Ganga, Brahmaputra and Kaveri and understand the administrative systems affecting favourably or adversely the landscapes that they have been instated to protect.

Cultural Landscape of Varanasi

As one of the oldest living cities in the world, Varanasi is believed to be as old as Jerusalem, Athens, and Peking (Eck D. L., 1983). The city is also referred by some as Banaras, while the pilgrims refer to it as Kashi. Its association with Shiva dates back to the beginning of time according to Hindu mythology along with its mention in Buddhist texts as the place where Buddha preached his first sermon. The city's population has a majority of Hindus making up 70.11 % along with Muslim residents that makes up 28.82 % (Census, 2011) of the population.

Co-existence and plurality makes this city a landscape of cultural diversity; Shrines, monuments, temples, mosques, and stupas from all over the city spread across centuries of socio-cultural changes stand an example of Varanasi's cultural plurality. The communities here have developed the

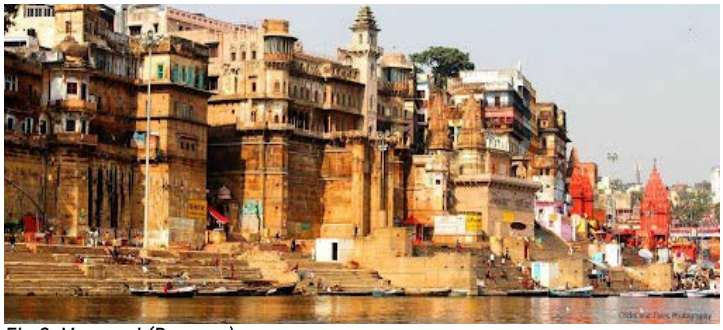


Fig 2: Varanasi (Banaras)

The Ghats of Ganga in Varanasi are the epitome of a spirituality etched onto the rocks the sacred city was built on. All 84 Ghats spanning 6.8 kms along the western banks of India's holiest river with each one representing 100,000 organic species where pilgrims take a dip in the water as they ascend down each one remains symbolic to the faith to cleanse themselves of their sins. The culture of Varanasi that gives it its unique heritage can be seen in the daily activities of its people both domestic and foreign, namely, the locals that spend their days in the ghats as Priests, boatmen, and render services to the pilgrims and tourists. The Ganga Aarti, a ritual of offering to the Goddess of the Ganga every sunset at Dashashwamedh Ghat.

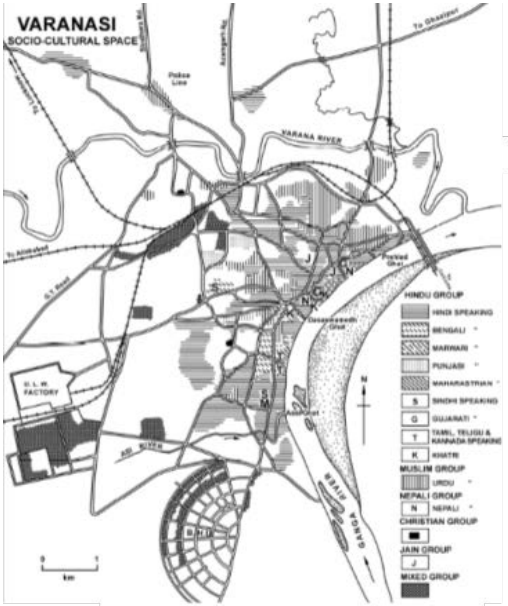


Fig 3: Socio-Cultural spaces in Varanasi (Source: Singh 2002)

Srirangam

Srirangam is considered to be the first and foremost of the 108 divya desams (Vishnu temples) which have been mentioned in the poems of Alwars (Saints). The Ranganathaswamy temple is one of the most illustrious Vaishnav temples in India.

The temple is part of the temple-town complex on the island, a typology that is specific to this part of the country. There are 21 magnificent towers in all prakaras providing a unique sight to any visitor (srirangam.org, no date). While the inner five enclosures of the complex constitute the temple, the outer two enclosures function as the settlement. Thus, the distinction between the temple and the settlement gets blurred and the temple is also referred to as Srirangam many a times. The temple follows Pancharatra agamas which was popularised by the Alvars through their Divya Parbandhams. The Agamas are divided into three sections: the Vaishnava, the Saiva and the Sakta and deal with selection of a place for temple planning, construction, installation of idols, worship and Temple festivals.Not only is the designed landscape of Srirangam temple is very clearly defined, but alsothis temple is connected to the immediate landscape falling in Tiruchirapalli. The Srirangam temple complex on the srirangam island and Ucchai Pilliyar temple, on the rocky outcrop, are connected by a folklore, thus making the Ucchai Pilliyar temple, an extension of the cultural landscape, in the beliefs of the local people. The Island of Srirangam is bound by the river Kaveri and it's tributary Kollidam on the northern edge. Much of the island falls under the bounds of the city of Tiruchirapalli. The entire district forms part of Kaveri river basin.



Fig 4:Ariel view of Sriram temle town

Cultural Landscape of Majuli

The island of Majuli is situated in the state of Assam mid-stream of the great male river Brahmaputra which is one of the largest rivers in the world. It is a part of the vast dynamic river system of Brahmaputra basin with a total length of 2,706 km and a catchment area of 580,000 sq km. It spreads over 924.6 square kilometres with a population of about 150,000. The word sattra in the context of Assam Vaishanavism embraces, the congregation of devotees for regular religious services, and also a complex with a distinctive architectural design, the central structure being a prayer-hall popularly known as Kirtan-ghar or Namghar It is said that there were about hundred such sattras in Majuli and could be called the Vatican of Hinduism' At present there are a total of 36 sattras in Majuli many of which are on the mainland.

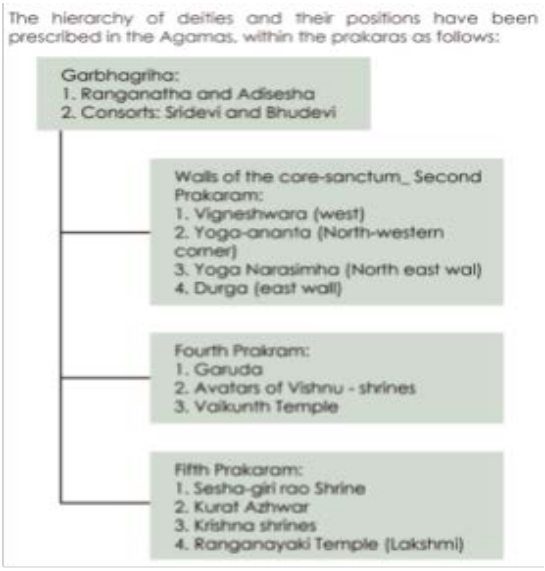


Fig 5:Hierarchy of prakars

Spatial Description

The Majuli Island is an exceptional example of a unique cultural landscape formed as a result of interchanging social, religious & cultural, spatial and ecological values associated with it. These ethnic groups include Mishings, Deori, Sonowal Kachari, Koch, Kaivartta and Nath. The settlements have their own typologies.

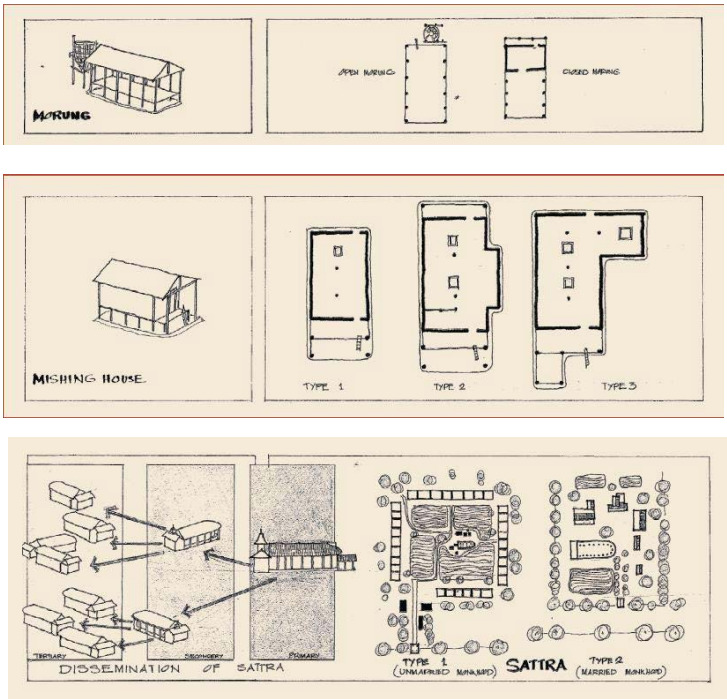


Fig 6:Housing typologies of Majuli

Traditional Management of Majuli

Traditional Management Systems in Majuli are governed mostly by local traditional knowledge rules and guidelines which are mandatory as per the customs. This resource management system includes natural resource management, agriculture, land use, fishing, sericulture, and livestock.

5.1. Traditional Management

LEVELS	DECISION MAKER	INSTITUTION	DECISIONS TAKEN
Village Level	Gaon burha	Namghar	Social, Festivals
Inter Village	Goan burha + Sattradhikar	Namghar, Sattra	Intervillage Dicisions
Mishing	Kebung head	Kebung/Missing	Social Disputes
Deori	Deuri Cand	Puja ghar	Social
Sattra (Internal)	Sattradhikar with Bhakats	Sattra	Internal Sattra Decisions
Sattra (External)	Sattradhikar with Bhakats	Sattra	Social, Festivals

Fig 7: Traditional Management of Majuli

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I

4.Documenting Cultural Landscapes

Vaishali Latkar

Changing the notion of heritage

Heritage as a concept is constantly evolving. Monuments were primarily considered as heritage. The change in this perception was noticed in the twentieth century, when the world witnessed huge destruction due to the world wars, eventually leading to the loss of identity. Due to this, the conservation movement gained momentum. This also partly led to the shift from monuments being perceived as heritage to bringing in living heritage or living in heritage under the fold of the Heritage domain. Due to this, the scope of heritage conservation practices has increased multifold. Today, heritage consists of living heritage that may include historic areas of settlements with diverse categories of built heritage still being used. With this, multiple domains like planning, economics, sociology, and anthropology are brought under conservation practices.

The paradigm shift is also about the 'Value-based approach'. The object's age or building used to be the criteria for qualifying that as heritage, even today in some regions. In the Indian context, the monument must be 100 years old (ASI,1958). However, the value-based approach identifies the significance associated with the heritage. The significance could be associational, architectural, cultural, ecological, archaeological and historic. Experts have also identified economic, functional and many other types of values. A structure or an object may possess multiple values with varied degrees of importance. Due to this, modern or contemporary structures may also be considered heritage in architectural conservation practices. Structures designed by modern masters like Frank Lloyd Wright (Robie House), Alvar Aalto (Paimio Sanatorium), and Le Corbusier (Capitol Complex, Chandigarh) are some examples of the same.

The Burra Charter (1999) replaces 'Monument' with 'Cultural significance'. This is an important shift in the conservation philosophy. The cultural significance of any place is constituted by its tangible and intangible aspects. Burra charter (1999) states,

'Cultural Significance means aesthetic, historic, scientific, social or spiritual value for past, present and future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects. Places may have a range of values for different individuals or groups.'

This helps in a holistic understanding of the place by considering the tangible as well as intangible aspects of the place together. The traditional occupations, crafts, customs, practices and living traditions are inherent parts of the intangible heritage.

In a nutshell, the notion of architectural heritage expanded in scale from monuments and settings to include areas, settlements, and cultural regions. It also changed from a

material-based approach to a value-based approach. This has resulted in how heritage is documented, and its contents depend on the nature and scale of the heritage

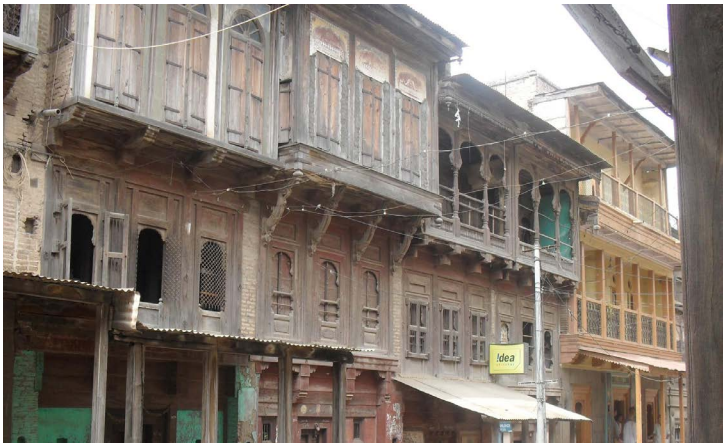


Fig.1. Living heritage: change in perception of heritage
Source: Author

Indian case

India has a rich legacy of the past, which has resulted in diverse categories of heritage. Archaeological Survey of India (ASI), the parent body engaged in heritage conservation since the 19th century, recognises around three thousand and five hundred structures as monuments (ASI, 2021). During the colonial times, many monuments were measured, photographed and painted by colonial enthusiasts, archaeologists and artists. The conventional ways of documentation in the form of measured drawings and photographs continue even today. However, the change in the ways of understanding and defining heritage as well as technological advances has led to the adoption of new tools and technologies.

Cultural Landscapes are the largest category of heritage in terms of scale and complexity. India abounds in different types of cultural landscapes. In the Indian case, cultural landscapes are called 'Intellectual landscapes' (Thakur, 2011). According to the census 2011, there are nearly six lacs villages, approximately seven thousand towns, and urban agglomerations in India. Most settlements have evolved over the period and hence are repositories of heritage of varied types. Very few of these have been recorded. Every settlement can be considered as a planning entity comprising a communication network, built heritage of varied types, open spaces, and natural features along with intangible cultural aspects that may consist of traditional communities with specific occupations, rituals and traditions of families, communities or settlements, arts and crafts unique to these areas.

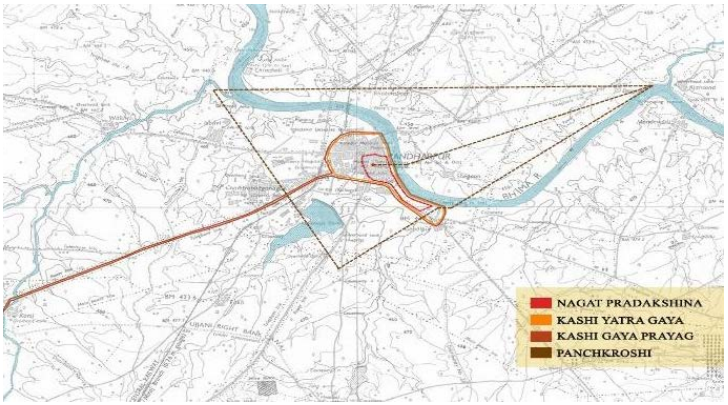


Fig.2. Indian cultural landscapes- A case of the sacredscape of Vitthala defined by pilgrimage routes.
Source: author.

Need for documentation

Heritage is tangible evidence of our history. Heritage Documentation is seen as a means to understand the past.
Current practices define heritage as a cultural resource and recommend culture-centric development (Govt., 2010). For this, it is necessary to identify and document the existing cultural resources.

In the case of historic settlements, natural settings can be safeguarded or less intervened if the response is understood. This is necessary for the sustainable development of the settlement.
Traditional architecture is time-tested and hence sustainable. Thus, strategies used in planning for combating climate can be evaluated for their contemporary applications.
Understanding the interrelation of culture and nature at a broader level and its relation to various aspects evolved, as well as its application in planning and designing, can help retain the character and spirit of the place.

Understanding these aspects is necessary for safeguarding heritage, restoring it and making meaningful additions. It also helps develop culture-sensitive design strategies.

and identification of cultural resources. This involves stages of gathering information, analysing it and establishing its significance. This process of collecting and compiling information is termed as documentation.

Documentation is a compilation or capturing of graphic and written records information that explains and illustrates the significant characteristics, physical configuration and condition of a historic building, site, structure, or object (Gupta, 2007).

Detailed documentation is desired before any intervention (Feilden, 1989). It can serve as the base for repairs and restoration of structures.



Fig. 3. For contemporary applications of traditional practices.
The Temple in Goa was designed by Conservation architect Abhijit Sadhale.
Source: author

Identification of heritage

Heritage is tangible as well as intangible. Historic structures and settlements represent tangible heritage. It is identified based on its significance. The significance can be historical, associative, archaeological, ecological and cultural. Visually, heritage structures can be determined based on the typology, elements like opening type and decorative elements, materials and construction type, as these all bore the stamp of time. Historical and associative values can be derived from the secondary sources of the place.

Historic Indian settlements before the colonial era are either traditionally planned or organically evolved, whereas the colonial interventions in Indian cities are marked by formal

Hence, documentation is essential to understanding history, planning. All these settlements are repositories of historic building typologies and vernacular constructions.

Intangible heritage of these settlements includes as traditional occupations, festivals, traditions, rituals, and arts and crafts. Documentation of both types of heritage is needed to understand the settlements.

Principles of documentation

Documentation of heritage is done with following principles,

1. The documentation should clearly demonstrate the significance of the heritage.
2. Accuracy and clarity in documentation is of utmost importance.

(Gupta, 2007

Documentation Process

Documentation of the built Heritage involves following three stages irrespective of its nature and the scale,

1. Background research.
2. Field studies
3. Synthesis and dissemination.

Settlement documentation should aim to understand,

The response to a natural setting.

Strategies used to combat climate.

Effective functioning.

Stages in documentation

Background study – This is also termed as an 'archival research'. It is based on secondary sources like archives, books, and expert interviews. It is the first stage in documentation and is usually done before doing field studies. Based on the findings from the field studies, one may have to resort to archival research to gather specific data. It helps in understanding history and identifying historic sites before visiting the field.

Field studies- Studies can be carried out at two levels for settlement documentation.

6.2.1. Settlement level

Settlement documentation involves recording built spaces and open spaces, planning the settlement, describing the character of specific areas, relating tangible and intangible aspects, and analysing infrastructure and interrelations. This can be done by mapping, photo documentation, or manual

documentation. The holistic approach demands the recording of intangible aspects as well. Intangible aspects include socio-economic data, activities, traditions, rituals etc.

6.2.2. Building level

Building documentation involves detailed documentation of structures for spatial organisation, structure elements, construction systems and materials, organisation and distribution in the settlement, history, and present condition. It also includes socioeconomic data pertaining to the structure.

6.2.3. Tools and methods of documentation

6.2.3.a. For Settlement documentation

Surveys are carried out to record various aspects on maps.

Tools used for settlement documentation are,Documentation Process

Documentation of the built Heritage involves following three stages irrespective of its nature and the scale,

1. Background research.
2. Field studies
3. Synthesis and dissemination.

Settlement documentation should aim to understand,

The response to a natural setting.

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Effective functioning.

1. Mapping by physical surveys – It involves manual mapping of various aspects on base maps. It usually consists of marking built and open spaces, different types of built heritage typology, communication networks, services, community



- **NAME OF THE PROPERTY:** Yashda Hospital
- **LOCATION:** C. T. S. NO. 420 Moti Chowk, Ravivar Peth , Pune.
- **LISTED / NOT LISTED:** Listed
- **PERIOD OF CONSTRUCTION:** Above 50 Year
- **NO. OF STOREYS:** Ground + 2
- **USE:** Commercial + Residential
- **NO. OF OCCUPANTS:** 2 Shops + 1 Family + 1 Hospital = 4
- **OCCUPATION OF OCCUPANT'S:** Sugadoley Shop
- **OWNERSHIP STATUS:** Owner Sai Sugandaley
- **MATERIALS USED:** Brick Wall, Wooden Pillars, M.S. Sheet, A.L.Sliding Windows
- **MODIFICATIONS:** Done
- **ARCHITECTURAL FEATURES:** Brick Wall , Closed Brick Wall Balcony With Glass Sliding Window M.S. Sheet On Roof Condition Good

Fig. 4 a. Settlement mapping, b.part of the inventory for historic structure
Source: author

2. Mapping by aerial surveys – Mapping is done using aerial photography. The use of drones is common in documentation now a days. The advantage of using aerial surveys is that remote, inaccessible areas can be effectively documented with aerial photography.

The settlement documentation results in heritage listing.

6.2.3.b. For Building documentation

The historic buildings are built in different periods. The records and accurate drawings of heritage structure are usually unavailable except for the known monuments. So, detailed measured drawings, photo documentation, and condition mapping are carried out as part of building documentation.

Measured drawings are prepared using conventional methods of actual measuring using tapes. Laser scanning, immersive photography, photo documentation using drones, and 3-D cameras are also used in building documentation.

The onsite process of documentation starts with a reconnaissance survey. It is a preliminary visual survey to gauge the situation before the documentation begins. It helps us in identifying areas and structures for documentation.

Settlement-level documentation is done on base maps that may be acquired from local authorities. In case of unavailability of the readymade base maps, the same may be generated from satellite imagery that is readily available from the internet sources. Using colours to mark activities, typologies, and other data saves time spent on the site.

Checkered papers and inventories are used for manual building-level documentation on site. Inventories are ongoing records for identifying and describing heritage places for various purposes, including heritage management, protection, and public appreciation (Myers, 2016). Proportionate sketches of plans, sections, elevations and details can be prepared on checkered papers while information about the structure is filled in inventories. The sketches are then converted into scaled drawings in the process of compilation.

Nowadays, advanced tools and technologies are available to do documentation. Laser scanners, drones, Immersive photography cameras, and Ground penetrating radars (GPRS) are some of the tools used for documentation.

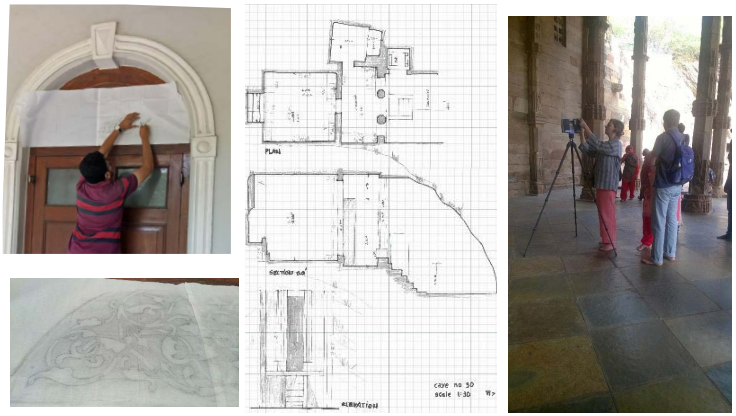


Fig.5. Documentation in process
Image b Courtesy: Ar. Poorva Patil

6.3 Synthesis and Dissemination

Field study data must be compiled to produce accurate well annotated building drawings consisting of site plan, floor plans, section, elevations, details of decorative elements, construction details, and condition mapping details. This data can be used for a 3D depiction of the structure, which may be helpful in the conservation process.

Information about owners' history, significance, present situation, ownership, and socioeconomic profile must be compiled for proposal purposes.

Heritage Building Information Modelling (HBIM) is being viewed as an effective means for managing heritage, though it is an under explored domain in India.

7.Significance of good documentation

Conservation ethics demands proper documentation of any heritage property before any intervention (Feilden, 1989). Accurate documentation helps us recreate missing elements or reconstructions in case of destruction. Proper condition assessment documentation helps us devise the right strategy for restoration, structural interventions as well as fiscal management.

Cultural resources identified during the documentation process contribute to devise a culture centric development proposal. Such proposals then involve heritage custodians in the development process, leading to a more sustainable conservation process.

India is in the phase of rediscovering its past. The nature and quantum of Indian heritage pose a considerable challenge to its documentation. However, architectural institutions can contribute to building the repository of Indian built heritage by integrating documentation projects in the respective curricula. Documentation done under the guidance of experts and expert bodies like ICOMOS can be a significant contribution in creating the repository of the heritage. This will help students of architecture in understanding of the cultural resources, ground realities and may encourage them to address the same in their practices, thereby leading to more sustainable practices in the future.

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5.Significance of Inventories in the Documentation Process

Saranya Dharshini

Abstract

In the context of heritage conservation and documentation, an inventory refers to a systematic and comprehensive record of heritage assets. As a tool, inventories are used in multiple ways to document and create a database of existing items for future use. This structured collection of information identifies, describes and catalogues heritage resources, such as cultural artifacts, historical buildings, archaeological sites, and intangible cultural practices.

This paper supports the 'Training and Capacity Building Programme on Comprehensive Study' of heritage settlements in Tillari which is part of the UNESCO World Heritage Site (UWHS) of Western Ghats. The training emphasizes the role of inventories in decision-making, conservation efforts, public engagement, and sustainable development, which underscore the value of inventories as indispensable tools in heritage conservation and documentation.

Key Words – inventory, heritage, conservation, documentation, cultural landscape, UNESCO

1.Introduction

Heritage conservation and documentation are critical endeavors aimed at conserving our heritage legacy for future generations. Among the essential tools in this pursuit, inventories hold a position of utmost importance. Inventories serve as comprehensive records that recognise, illustrate and collate heritage assets, enabling informed decision-making, conservation efforts, research, interpretation, and stakeholder engagement. An inventory could be as basic as a list of items that provide information for the protection and conservation of cultural heritage.

2. Conserving heritage

Our heritage, a rich tapestry woven by the collective experiences of humanity, is a testament to who we are as individuals and as a society. It serves as a mirror reflecting our past, shaping our present, and guiding our future. Recognizing the importance of our heritage, it becomes imperative to undertake efforts to understand, protect, and conserve it.

On the path to conservation, it becomes imminent to document heritage sites, both tangible as well as intangible. Listing these sites at local, national and international levels helps raise awareness and mobilize resources for their protection. Such recognition not only acknowledges their evidential, historical, aesthetic, or communal values but also establishes a commitment to their conservation (Historical England, 2019).

2.1 Documentation

In heritage conservation, documentation is a process of systematically recording and detailing various aspects of heritage sites, objects, or traditions for the purpose of conservation, research, and dissemination of knowledge. It involves gathering information, capturing images, creating detailed descriptions, and organizing data in a structured manner as an inventory.

2.1.1. Why do you develop an inventory?

Inventories provide a complete record of the existing heritage, including information on physical characteristics, provenance, historical significance, and condition. At the core of inventories lies the act of documentation.

Record-keeping ensures that a comprehensive record of the heritage is maintained. For example, for a cultural heritage site, presumably a tangible one, this includes information about the historical background, architectural features, materials used, and cultural significance of the site or object. This record serves as a reference for future research, restoration, or conservation efforts.

For protection of heritage sites, a list is prepared evaluating the significance of various sites, and they are acknowledged by appropriate authorities as recognized heritage sites. In India, heritage sites are listed at national, state and city level, which also includes UWHS.

2.1.2. Latest technologies

In heritage conservation, documentation can take various forms, including written reports, surveys, photographs, drawings, maps, 3D models, and digital databases. Latest technologies, such as laser scanning, photogrammetry, and Geographic Information Systems (GIS), have revolutionized the documentation process, allowing for more accurate and detailed recordings.

Through meticulous cataloging and recording, inventories capture a detailed snapshot of heritage assets, elucidating their multifaceted contributions.

2.2. Use of inventories

The role of inventories is emphasized in the second protocol to the 1954 Hague Convention which considers it as a peacetime safeguarding measure: `Preparatory measures taken in time of peace for the safeguarding of cultural property ... shall include, as appropriate, the preparation of inventories' (UNESCO, 1999).

By preparing inventories, UNESCO emphasizes the need for proactive measures to ensure the conservation of heritage assets, rather than relying solely on reactive actions taken in times of crisis or conflict. It recognizes that conflicts, natural disasters, urbanization, and other factors can pose risks to heritage sites and objects. Therefore, creating inventories before any potential threats arise serves as a preventive measure.

Cultural artifacts, historical buildings, archaeological sites, and other significant assets find their place within these inventories. Each entry encapsulates vital information, including physical characteristics, provenance, historical significance, and condition. By systematically documenting heritage assets, inventories establish a foundation for their long-term conservation.

PHOTOGRAPHS AND AUDIOVISUAL IMAGE INVENTORY AND AUTHORIZATION FORM

Id. No	Format (slide/ print/ video)	Caption	Date of Photo (mo/yr)	Photographer/Director of the video	Copyright owner (if different than photographer/director of video)	Contact details of copyright owner (Name, address, tel/fax, and e-mail)	Non exclusive cession of rights

Figure 1:Example of an inventory form from the format for the nomination of properties for inscription on the UNESCO World Heritage List. (UNESCO, 2023)

2.2.2. Research and Interpretation

For conservation professionals such as scholarly researchers and museum curators, inventories are valuable resources for studying and interpreting heritage. The detailed documentation enables in-depth analysis, comparative studies, and the exploration of historical and cultural contexts, contributing to a deeper understanding of our collective past. It provides valuable data for academic studies, exhibitions, publications, and educational programs.

Indicator	Periodicity	Location of Records

Figure 2: Example of an inventory form to document key indicators for measuring state of conservation for the nomination of properties for inscription on the UNESCO World Heritage List. (UNESCO, 2023)

2.2.3. Planning and Decision-making

Inventories provide a basis for informed decision-making in heritage conservation. By evaluating inventories, one can identify heritage assets of significant importance, determine their vulnerability, and prioritize conservation efforts accordingly. Inventories assist in determining which assets require urgent attention, enabling the allocation of resources and efforts where they are most needed. Furthermore, inventories inform the integration of heritage assets into urban planning, ensuring that heritage preservation is considered in sustainable development.

2.2.4. Public Engagement and Education

Inventories facilitate public access to heritage information, promoting awareness and appreciation among local communities and visitors. By making inventories accessible through digital platforms or exhibitions, heritage organizations can encourage a sense of custodianship, cultural pride, and encourage sustainable tourism. Public access to inventories not only enables individuals to explore their heritage but also encourages an understanding and appreciation of the significance of heritage assets.

Digital documentation and online platforms make it possible to share information, images, and virtual tours of heritage sites with a global audience. This fosters public engagement, awareness, and appreciation for heritage assets, while also facilitating remote research and learning opportunities.

3.Case studies

This section highlights the role of inventories in heritage conservation through the case studies of a cultural heritage site and natural heritage site.

3.1. Cultural heritage site of Notre Dame, Paris

Following the devastating fire that engulfed the iconic landmark in April 2019, an inventory of the cathedral's treasures and artifacts became invaluable in assessing the damage and planning the restoration process.

The inventory in Notre Dame provided information on religious relics, artworks, furnishings, and architectural elements. This detailed record helped as a reference point for identifying and prioritizing items for restoration, as well as determining the extent of the damage they had incurred.

Having an inventory facilitated the organization and tracking of artifacts during the recovery phase. Each item was carefully documented, cataloged, and stored, ensuring that nothing was overlooked or lost in the aftermath of the fire. This meticulous inventory management enabled the restoration team to systematically address the restoration needs of each artifact, guiding the decision-making process and ensuring that no element of cultural significance was neglected.

Furthermore, the inventory provided vital information for insurance claims, valuation, and fundraising efforts. The documented list of artifacts and their historical value served as evidence for insurance assessments, helping to cover the costs associated with the restoration process. Additionally, the inventory became a valuable tool for engaging donors, as it highlighted the cultural and artistic significance of the items affected by the fire and emphasized the urgency and importance of their restoration.



Figure 3: Notre Dame in Paris undergoing restoration works after the 2019 fire. (Pixabay, 2020

3.2. Impacts of climate change on natural heritage sites

Climate change poses significant challenges and impacts on UNESCO natural heritage sites around the world. Natural heritage sites face various threats, including increasing global temperatures, rising sea levels, and shifts in ecosystems. Intensifying weather events, such as hurricanes, storms, and wildfires can cause direct damage to natural heritage sites, including forest fires that destroy forests and habitats. For example, in 2016 the UWHS Tasmanian Wilderness in Australia was damaged by severe wildfire resulting in loss of thousand-year-old trees. Another example is the inventory of some of the most important long-lived trees in Iran as shown in the tentative list site of 'Long-lived trees of Iran'. Such list help in protecting and conserving the natural site for posterity and prepare management plans to efficiently manage the site in the event of a calamity.

Species	Province	Perimeter (cm)	Age (year)	Coordinate
Cupressus sempervirens	Yazd Province, Abarghu city	962	4000	N 31° 07′ 21″; E 53° 16′ 47″
Cupressus sempervirens	Sistan and Baluchestan Province, Khash City, Dehpaeed village, 2 km from the village	445	60-700	N 28° 35′ 48″; E 60° 46′ 26″
Cupressus sempervirens	Sistan and Baluchestan Province, Khash city, Sangan village, the place of Eidgah Niromd	757	3000	N28° 34′ 56″; E61° 19′ 21″
Platycladus orientalis	South Khorasan Province, Zirkuh city, Hajiabad, central part of Asfad village	730	990-1040	N 33° 27′ 44″; E 60° 07′ 12″
Platycladus orientalis	South Khorasan province, Qaen city, Zirkuh city, Shahkuh district, in the Stand village lands	684	900-95	N 33° 50′ 36″; E 59° 42′ 49″

Figure 4: Some of the most important long-lived trees in Iran. (UNESCO World Heritage Centre, 2021)

3.3. Use of the case studies

Overall, the case study of Notre Dame investigates how the inventories have facilitated the identification, description, and cataloging of artifacts, enabling comprehensive documentation, informed decision-making, and effective conservation efforts. It showcased the significance of meticulous documentation in safeguarding and preserving our cultural heritage in the face of unforeseen disasters. In the second case study, it is understood that natural sites face severe consequences from disasters and inventories are necessary to identify and locate natural assets to protect and conserve them.

The case studies provide insight into cultural and natural UWHS which relates to the Western Ghats.

4. Site documentation at the Western Ghats, India

Recognized as a UNESCO World Heritage Site in 2012, the Western Ghats of India was inscribed under criteria ix and x (natural site) as a testament to the remarkable beauty and ecological diversity that our planet harbors.

The Western Ghats are a biodiversity hotspot, housing an incredible array of flora and fauna. Its lush forests shelter thousands of plant species, including numerous endemic ones, making it one of the world's eight 'hottest hotspots' of biological diversity. Beyond its natural wonders, the Western Ghats are deeply intertwined with the cultural fabric of India and offer a glimpse into the intricate tapestry of nature and culture.

The region is home to indigenous communities such as in Tillari that have nurtured traditional practices for centuries. These communities have developed a sustainable way of life in harmony with nature, with their livelihoods often centered around agriculture, fishing, and local crafts.

Tillari boast a captivating cultural landscape, seamlessly blending human settlements with nature. Documenting the significance of this site requires a holistic approach by preparing an inventory and analysing its values and attributes that embody a harmonious coexistence between humans and nature, serving as a beacon of inspiration for conservation and sustainable living. For example, nomenclature of plants and trees in local language along with their scientific name would allow the local community to recognise and associate the natural assets. Similarly, documenting traditional

practices such as festivals, farming patterns, and rituals would help in understanding and recognising conservation and management strategies that are indigenous to the region.

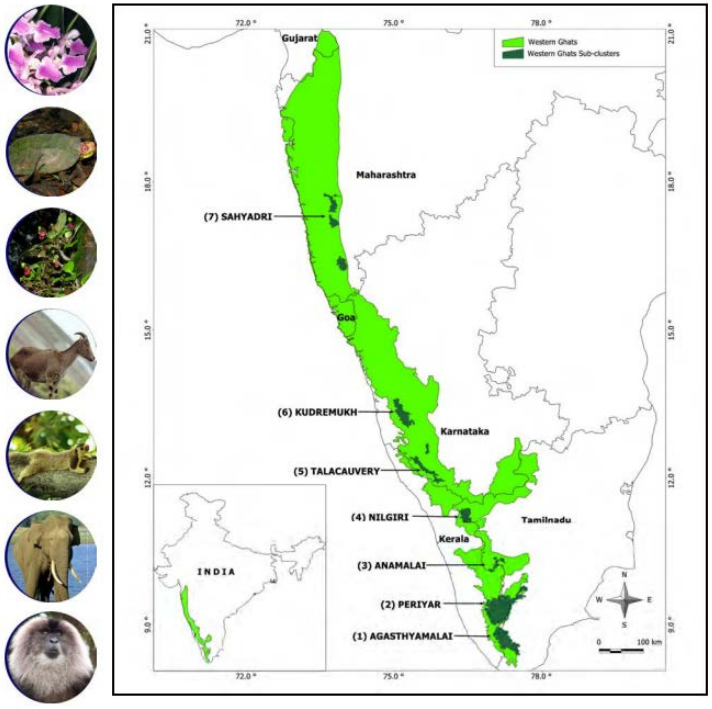


Figure 5: UNESCO World Heritage Site Western Ghats. (UNESCO World Heritage Centre, 2012)

5. Conclusions

Inventories are essential tools in heritage conservation and documentation, serving as comprehensive records of our heritage. Through the act of documentation, inventories enable conservation efforts, research, interpretation, informed decision-making, and public engagement. By recognizing the importance of inventories and investing in their creation and maintenance, we ensure the safeguarding of our diverse heritage for future generations. With inventories as our guiding lights, we can navigate the challenges of conserving and understanding our cultural legacy to support sustainable management and development.

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The Case Study

The Training and Capacity -Building Program

Vaidehi Lavand

Introduction

The proposed study of settlements within the ecological and historical environment of the Tillari Conservation Reserve in the Western Ghats aimed to explore the intricate relationship between culture and nature. By adopting multidisciplinary, interdisciplinary, and cross-disciplinary approaches, the study broadened students' perspectives on ecologically sensitive regions and the communities inhabiting them.

Collaborative Framework

The training and capacity-building program was a collaborative initiative between ICOMOS India West Zone, NSC HCTV, NSC CL, NSC ET, and SMEF's Brick School of Architecture. The program was structured into three distinct phases:

1. **Knowledge Building:** A series of expert-led lectures provided foundational insights into the study.
2. **Fieldwork and Documentation:** In-depth analysis of tangible and intangible attributes of settlements by architecture students.
3. **Publication and Synthesis:** The final stage involved compiling documentation into a comprehensive resource.

This initiative also aimed to develop a pedagogical framework for design studios, facilitating the exploration of both tangible and intangible heritage within the natural environment of the Western Ghats.

Research Focus and Methodology

The study sought to identify key parameters associated with cultural landscapes in the Tillari bioregion. It also tries to map traditional wisdom and community participation in ecological conservation efforts. The research was divided into three core segments:

Conceptual Conversations (December 29, January 4th & 5th): Discussions on ecology, biodiversity, cultural landscapes, and settlements in the Western Ghats provided a strong theoretical foundation.

Fieldwork at Kudase Village (January 6th & 10th): Hands-on research conducted on-site near Tillari Conservation Reserve.

Final Documentation: Compilation of findings into a publication encapsulating the entire research process.

The Tillari Bioregion

The Tillari bioregion is a biodiversity-rich area that exemplifies the interconnections between nature, culture, and community. The region is divided into five zones, each comprising three villages:

- **Zone 1:** Hewale, Bambarde, Ghatiwade
- **Zone 2:** Sonawal, Palye, Terwan-Medhe
- **Zone 3:** Ker, Morle, Ghotgewadi
- **Zone 4:** Parme, Ghotge, Bodan
- **Zone 5:** Kudase, Ambeli, Bedshi

For this study, research was focused on **Kudase settlement in Zone 5,** employing a multidisciplinary framework to analyze its ecological, cultural, and architectural dimensions. The study of Kudasewadi served as a foundation for design studio projects, emphasizing settlement patterns and evolution of local architecture within a strong ecological context.

Key Findings and Impact

The capacity-building program successfully trained architecture students in the documentation of settlements in the Western Ghats, particularly within the Tillari bioregion. The holistic approach integrated the culture-nature continuum, with experts enhancing the understanding of conservation needs. Various layers of research included:

Ecological Perspectives: Analysis of biodiversity, geography, human interactions with the surroundings and nature culture journey.
Cultural Contexts: Investigation of traditions, heritage, and socio-cultural dynamics.
Architectural Evolution: Examination of vernacular expressions and their ecological adaptations in settlement patterns and local architecture.

Group interactions with local communities provided deeper insights into site-specific issues and opportunities. The program significantly enriched the teaching-learning process by fostering a more context-sensitive approach to architectural design.

Conclusion

The Training and Capacity-Building Program at the Tillari Conservation Reserve has demonstrated the value of integrating academic research with hands-on fieldwork. By emphasizing ecological and cultural sustainability, the study highlights the importance of preserving the delicate balance between nature and human settlements. This initiative serves as a model for future research and conservation efforts in ecologically sensitive regions.



Participant Documenting a shrine image by vaidehii lavand



Onsite sketching activvity.



6.Understanding Natural Heritage and Management Challenges in the Context of Western Ghats

Girish Punjabi

The discussion delves into the challenges associated with managing natural heritage sites, exploring Western Ghats as a significant case in India. It also explores various paradigms for understanding what constitutes a natural heritage site and argues why the Western Ghats should be classified as one.

Brief about natural world heritage sites

The World Heritage Convention, an international instrument, recognizes Natural World Heritage Sites based on two criteria:

A. Most exceptional natural places in the world

B. Sites with outstanding biodiversity, ecosystems, habitats, geology, or stunning natural phenomena

Such sites with "outstanding universal value" are inscribed on the UNESCO World Heritage List. World-over nearly 3.5 million square kilometers of area is part of the UNESCO Natural World Heritage List. A total of 257 natural terrestrial and marine sites (of which 39 are mixed) are inscribed in the list from across 100 countries. The Natural World Heritage Sites in India are Kaziranga National Park, Keoladeo National Park, Manas Wildlife Sanctuary, Sundarbans National Park, Nanda Devi and Valley of Flowers National Park, the Western Ghats, the Great Himalayan National Park Conservation Area.

The Western Ghats as a case study

The Western Ghats are older (150 mya) than the Himalayas and support exceptional biodiversity. The landscape supports thousands of wild species, of which over 325 species are globally threatened flora and fauna, found nowhere else on earth. However, the Western Ghats is also a biodiversity hotspot, which means that anthropogenic threats to the biodiversity is extremely high (Figure 1 & 2).

The Western Ghats has 39 components of the serial site nomination under the UNESCO Natural World Heritage Site (https://whc.unesco.org/en/list/1342/). These are mostly existing PAs, but some sites are Reserved Forests.

The Management Challenges of this unique Natural World Heritage can be divided into local and global, which are explained below:

Local Challenges: Local challenges mainly stem from human-use and development in the vicinity of the sites. These challenges can be tackled by proper local governance.

The main human-use impacts are as follows:

Land for human settlements: Land is a limited commodity in a country such as India with a burgeoning human population. Therefore, the impact of land encroachment is seen in many cases. Although the 39 component sites are well-protected, the increased demand for land means that land encroachment is always a threat.



Figure 1: Crestline habitats of the WG are fragile and prone to landslides. Image by Girish Punjabi



Figure 2: Raitoba plateau in Chandgad Conservation Reserve during the monsoon. Image by Girish Punjabi

Agriculture, Horticulture: Traditionally, slash and burn (swidden) agriculture was practiced in large parts of the Western Ghats. Although this practice is mostly replaced by other forms of farming due to the advent of modern fertilizers and pesticides. Various crops are grown in the Western Ghats, such as rice, sugarcane, sweet potato, groundnuts, vegeta bles etc. Increasingly, horticultural plantations, which include cashew, mango, banana, arecanut, coconut, as well as commercial agriculture such as pineapple, and rubber are seen. Clear-felling of secondary forest or native vegetation on private lands for agriculture, plantations, and the sale of firewood are a huge threat to the ecology of the Western Ghats.

Livestock rearing: Although livestock rearing has been reduced over the past few decades, free-grazing by livestock is still a threat to the wild herbivores in the Western Ghats. High densities of goats, cattle or buffalo are seen free-grazing in forest areas competing with native wildlife, especially large herbivores. Sometimes, domestic livestock are killed by leopards and tigers, leading to conflict.

Other biomass and resource collection (fishing, hunting, building materials): Although resource dependence on the forest for food, building materials, etc. has drastically reduced in recent times, reverse migration may increase these threats in the future.

The main human-development impacts are as follows:

Land for infrastructure (roads, highways, railway): A large number of village roads and highways fragment corridor connectivity for wildlife in the Western Ghats. Linear intrusions in wildlife habitats result in wildlife mortality and disturbance, which sometimes causes wild animals to completely avoid using areas closer to roads (Figure 3).

Irrigation and electricity (large dams, wind farms): A number of large, and medium dams have submerged forest habitat and caused fragmentation of land. The Koyna Wildlife Sanctuary protects the catchment forests of one of the largest dams in Maharashtra, however the construction of the dam caused a lot of fragmentation in the first place (Figure 4). Wind farms, although necessary for a transition to renewable energy, cause unstudied effects on the ecology of natural landscapes where they are sited.

Extractive industries (mining, quarrying): By far the most sinister threat to the forest areas in the Western Ghats is mining. Bauxite Mining has already ravaged a number of lateritic plateaus in the region and the open caste excavated mining cause irreparable damage to the ecology of such fragile areas.

Cottage industries (tourism): Although small-scale tourism does not have severe impacts, over-tourism in some sites of the Western Ghats for hill stations, viewpoints etc. number of issues. Garbage generation is a real problem and with no proper waste management systems, the Western Ghats is seriously threatened due to such cottage industries as well.



Figure 3: Roads disrupt connectivity of forests in the WG. Image by Girish Punjabi



Figure 4: The Koyna dam as seen from inside the Sahyadri Tiger Reserve. Image by Girish Punjabi

Global Challenges

Global challenges cannot be tackled at local scales and require policy interventions from countries at national and, ultimately, global scales.

Climate change and climate breakdown: Climate change is wreaking havoc on the ecology of wild plants, animals and other biodiversity due to the unpredictability of extreme weather events. Brutal summers, followed by excessive monsoonal rains in a short span have a severe impact on the habitat and ecology of many species. The changing monsoon pattern affects the breeding cycles of sensitive species such as amphibians, reptiles, and fish. Extreme weather events cause damage to fragile habitats because of landslides, flooding, and heatwaves which result in severe forest fires (that are human-caused). Globally, the increasing temperature of the planet has increased the number of hot days, the effects of which is especially apparent in a climate vulnerable country such as India. The Western Ghats has a fragile ecology which is increasingly being damaged due to climate breakdown.

7.Significance of Western Ghats as Natural Heritage

Raman Kulkarni

Introduction to Western Ghats

The Western Ghats, regarded as the lifeline of South India, protect a rich biodiversity along the west coast. The mountain ranges of the Western Ghats in the southernmost part of Maharashtra share borders with Goa and Karnataka. This tri-junction is home to dense evergreen, semi-evergreen, and moist deciduous forests. These forests, among the densest in Maharashtra, provide a natural habitat for a myriad of species.

Significance of Tillari River in the region

The Tillari River, originating as the Tillottama at Tudye in the Chandgad tahsil of Kolhapur district, flows westward through the historic Ramghat where three streams converge, becoming known as the Tillari. The Tillari Irrigation Project, a collaboration between Goa and Maharashtra, was completed in 2009, creating a reservoir with a capacity of 462.17 MCM of water. This project submerged seven villages in Maharashtra and 202.92 hectares of forest. The Tillari valley has long been a biodiversity hotspot and a magnet for researchers and tourists. Visitors can experience the harmonious coexistence of nature, culture, and people, an ecosystem that has evolved over time. The region's various cultural and traditional rituals, such as the Shimgo festival and the enactment of a striped tiger at the Mayegawas temple, reflect the strong bond between communities and the natural elements they inhabit. The Vagh Khel, in particular, expresses gratitude to the tiger as a folk deity.

In 2001, when elephants began entering the Tillari region through the Mhadei forest reserve of Karnataka and Goa, wildlife researchers and authorities recognized the importance of this natural habitat. For over a quarter century, environmentalists from Goa, Maharashtra, and Karnataka have been working diligently to secure legal protection for the Tillari forest region. Despite being part of the eco-sensitive zone in the Western Ghats, its protection remains a top priority to preserve its delicate ecosystem.

After the declaration of the Mhadei Wildlife Sanctuary in Goa in 1999 and the Bhimgad Wildlife Sanctuary in Karnataka in 2011, it became evident that the Tillari region also needed legal protection. In 2016, the Maharashtra Forest Department proposed designating 57 square kilometers across 25 villages in Dodamarg as a Wildlife Sanctuary, but this initiative did not come to fruition. On June 22, 2020, after consulting local communities, the Government of Maharashtra issued a notification under Section 36-A of the Wildlife Protection Act, 1972, declaring 29.53 square kilometers of forested area as the Tillari Conservation Reserve. This reserve includes forest areas from the villages of Bambarde, Ghatiwade, Kendre Khurd, Kendre Budruk, Patiye, Shirange, Konal, Ainode, Medhe, and Hewale in the Dodamarg range of the Sawantwadi division.

The Government of Maharashtra's decision to declare the Tillari forested region as a Conservation Reserve will enhance the collaborative efforts of Goa and Karnataka to protect

biodiversity and its habitats. Intensive studies conducted from 2014 to 2019 have identified seven individual tigers in the Tillari region. Notably, a tigress with two cubs was captured on camera in Tillari Valley, highlighting the area's uniqueness. Ongoing research has shown that tigers breeding in Tillari Valley, Mhadei Wildlife Sanctuary, and Bhimgad Wildlife Sanctuary migrate northwards, reaching up to Radhanagari Wildlife Sanctuary and further to the Sahyadri Tiger Reserve. The presence of tigers in the northern Western Ghats, particularly in the Sahyadri Tiger Reserve, relies heavily on forest connectivity from Tillari to Radhanagari Wildlife Sanctuary.



Figure 1 View of Tillari River. Image by Raman Kulkarni

The catchment areas of irrigation dams in this region have transformed it into a wildlife haven. Elephants roam freely here, thanks to the abundant bamboo forests and the flowing waters of the Tillari River. Tillari Valley boasts a robust population of Sambar deer and wild boars, which are the preferred prey of tigers and wild dogs.

The plateau region of Tillari is dominated by herbaceous flora, while the valleys feature riparian vegetation and vast grasslands that sustain herds of the world's largest bovine, the Indian Gaur. Species endemism is at its peak in this region, with unique species such as the locally endemic Hubbardia dieandra grass found only in Tillari. The rare monsoon beauty, Begonia concanensis, clings to rocks and is recorded at just one location.

Birdwatchers will delight in spotting the elusive Malabar trogon and hearing the loud, harsh calls of hornbills echoing across the valley. Other avian treasures include the Sri Lanka frogmouth and the flame-throated bulbul. The region is also home to flying jewels like the Malabar Tree Nymph and the Southern birdwing. Whereas reptile enthusiasts will find the occurrence of the hump-nosed pit viper, king cobra, and the flying lizard Draco noteworthy, as this area marks the northernmost range for these species in the Western Ghats. Amphibians such as the Malabar Gliding Frog and the Amboli Caecilian are also commonly found here.

Remote areas of Tillari Valley are the only known locations in Maharashtra for the Slender Loris. The melanic black panther has been captured on camera traps, and sightings of the Brown Palm Civet are frequent. The Tillari River is home to dynamic inhabitants such as the smooth-coated otter and the small-clawed otter, while the Indian crocodile thrives in its waters. Additionally, a variety of fish and crabs can be found here. The uniqueness of this area is underscored by the rarity of many of these species in the northern Western Ghats. The first recorded Myristica swamp forest in Hewale village highlights its prehistoric significance. The forest of Saraca indica in Hewale is home to the Sateri-Kelbai temple.



Figure 2 Fungi botanical name Cookeina Tricholoma sighted in Tillari region. Image by Raman Kulkarni



Figure 2 Malabar Trogon sighted in the Tillari region. Image by Raman Kulkarni

In conclusion, although only 29.53 square kilometres have been designated as the Tillari Conservation Reserve, efforts are underway to involve local communities in expanding the protected areas in Sindhudurg and Kolhapur districts. Researchers are addressing the threats of rampant deforestation caused by commercial plantations of species like rubber and pineapple, as well as illegal hunting. The Tillari Conservation Reserve holds great potential for eco-tourism activities that must be explored further holistically respecting all the environmental norms. Securing Tillari is crucial for protecting this wildlife corridor and ensuring the continued presence of tigers and other wildlife in the Sahyadri region.



Photo by : Raman Kulkarni

8.Cultural Heritage and Communities in South Konkan

Saili Palande Datar

Introduction and Physical Settings:

Konkan is a regional and cultural unit defined by physical boundaries of Arabian sea on west and steep slopes of Sahyadris (Northern Western Ghats) to the east. It is a geographically a narrow strip of land which is characterized by west flowing rivers basins forming undulating terrain at Sahyadri foothills (0 to 500 meter msl) followed by ferrocretic or basaltic plateaus and coastal strip.

It experiences heavy temperature variation and receives heavy rains due south west monsoon winds during the rainy season.

Eco cultural settings of South Konkan

For the current scope of study, the focus is on southern Konkan which comprises of two districts, namely Ratnagiri (1832) and Sindhudurg (1981). The two districts have relatively low population density and are dominated by highest green cover in the state of Maharashtra and humid subtropical climate. The land is blessed with natural beauty and resources such as perennial water streams and rivers, forests and is rich in mineral wealth. Inspite of its remoteness, there exists strong cultural ties with region of Goa, Karnataka and peninsular Maharashtra. This has facilitated many cultural interactions and exchanges, bringing eclectic influences on the local culture and heritage development. Remoteness of the landscape has also ensured that centuries old local living traditions and practices are preserved and have thrived. These two districts have supported various handicrafts and diverse art traditions and artists, their guilds have survived in villages across districts. However these local cultures and practiced are sparingly documented and contextualized in the eco cultural landscape thus offering further scope for such an activity.



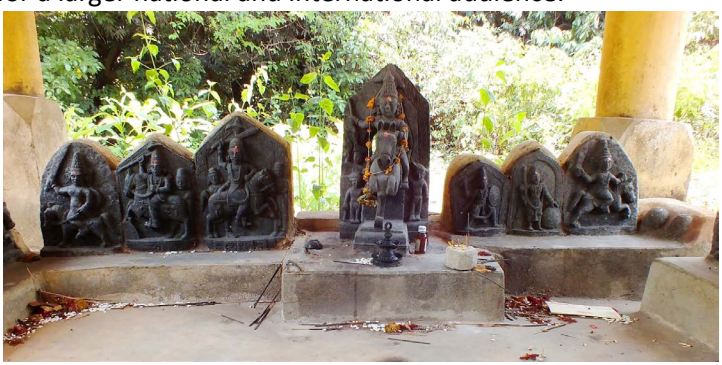
Built Stepwell (बारव) made of laterite blocks- example of water heritage from Golap, Ratnagiri

Historical Background-Cultural Layers:

Human cultures have existed in Konkan since Paleolithic times and continued through pre and proto history. Their representation is found in the form of natural cave shelters where various stone tools have been reported through

archaeological excavations. Mythically, the origin of Konkan is attributed to lord Parshurama who created this strip of land by launching an arrow and the sea receded to reveal Konkan (also terms as Aparant) . The early historic dynasties such as Konkan Mauryas, Kadambas Chalukyas (ruled from 2nd century CE to 6th century CE) were followed by Konkan Shilaharas, Kadambas and regional Chalukyan vassals (7th century CE to 14th century CE). Medieval rule was dominated by Adilshahi, Marathas followed by Sawantwadikar Bhosales and colonial powers such as Portuguese, British and Dutch (15th century to 20th century CE). The region achieved its independence after being part of Bombay Presidency on 15th August 1947 and has been part of the independent Republic of India.

There are several challenges in studying the Heritage of south Konkan. The preservation of archaeological heritage is less due to extreme environmental conditions such as heavy monsoon rains and tropical heat which hinders habitation deposition and formation of archaeological mounds and sites. Except for a few mythical texts such as Mahikavatichi Bakhar and place narratives in the form of mahatmyas such as Sahyadri Khand, there is a lack of historical records for the area. Oral traditions are poorly preserved and are already in flux due to modern influences and developmental factors. Very little cultural information is available in other languages except for local language thus making it inaccessible to study for a larger national and international audience.



Stone sculptures of founder of Gavas clan, Maay Gavas (माय गवस) worshipped along with his sons and heroes in Sacred Grove of Hevale, Sindhudurg-Example of Ancestral worship

Inspite of these issues one can find plethora of cultural heritage distributed in following forms:

Tangible Heritage of South Konkan includes Archaeological sites and historical settlements, Forts & military heritage, Temple complexes and shrines, Sculptures, artifacts & icons,Mural and miniature paintings such as Chitrakathi, Kavi art, Leather Puppets, Kalsutri Puppets, Wooden and stone crafts.

Intangible Heritage of South Konkan includes Dashavatara, Naman khele performances, Festivals such as Shimga (Holi) and village specific traditions, Malwani songs, Various dance and singing traditions such as Chapai or Gaji Dance and so on. Mixed Heritage of South Konkan includes performances of leather Puppets, Chitrakathi and associated performances such as Pingla. Sacred groves which are locally known as Deorai/ Deo-Rahati and Water heritage are crucial components of the mixed heritage of Konkan.

There have been a number of excavations carried out in Ratnagiri and most recently at Koloshi near Devgad Tehsil of Sindhudurg. These natural cave deposits have revealed more than 800 stone tools in the form of Hand axes, cleavers and microliths. The oldest date of the deposits is roughly around 48000 years old which belongs to the Upper Paleolithic era. The mesolithic era following that is dated to around 12000 to 10000 years ago which is dominated by smaller tools such as microliths.

Geoglyphs of Konkan:

The chance-discovery of the Geoglyphs was first reported in Nivli village, in 1990s when the Directorate of Archaeology and Museums, Ratnagiri Division (Government of Maharashtra), received a report of abstract carvings on laterite. This finding sparked the interest of research scholars, who explored the Konkan coastline and between till date, several clusters have been located in 4 (four), 68 (sixty-eight) and 21 (twenty-one) locations in Goa, Ratnagiri and Sindhudurg districts of Maharashtra, respectively.

Along the Konkan (western) coast of the Indian subcontinent, in the States of Maharashtra and Goa, more than 1700 Geoglyphs have been identified on the Sada Plateau (a narrow strip of plateau between the sandy beach and the Western Ghats). This large concentration of rock art that spans at least 25K years (Mesolithic 30 Kya to Early Historic 1.7 Kya) is unique on several accounts.

- These are the only evidence of the existence of Mesolithic life in a geography known to be bereft of humans. The importance is amplified as the Geoglyphs also essay the

evolution in cognition through increased emergence of abstract symbols, departing from just depicting observed faunal life.

- The complexity of scale, observation skills, finesse in details, and the ability to execute lifelike depictions by using a plethora of techniques are evident of the high level of cognitive development and technically advanced tools that characterized the Mesolithic humans of the Sada.
- These open-air ensembles are a remarkable documentation of faunal lifeforms that no longer exist in the region and provide vital cues of adaptation of lifeforms and geology across climate change. eg.Rhinoceros and elephants.
- Most importantly, the Geoglyphs demonstrate the integral relation of early humans with local material (laterite) and geography of the plateau and the coastline. This relation has been foundational for the supra-regional culture and transformed the Konkan coastline into a major political geography which capitalized on maritime and inward trade of the Arabian Sea. The evidence of this knowledge is testified in the celebration of laterite architecture in the form of forts, temples, indigenous architecture, caves, sculptures, and culture dotting the landscape.



Sacred grove dedicated to folk deity, Bhairi on crest of Sahyadri/ western ghats - Location: Bhairavgad, Sahyadri Tiger Reserve- Ratnagiri/ Satara

As of the 17th February, 2023, Government of Maharashtra, Department of Cultural Affairs, Directorate of Archaeology and Museums has nominated nine representative Geoglyphs as the Serial Property - Geoglyphs of Konkan Region of India on the UNESCO`s Tentative World Heritage List.

Megalithlic Heritage and Iron age:

Following the mesolithic era, the protohistoric period in South Konkan revealed to us some megalithic traditions in the form of stone circles and menhirs. These traditions have been studied by Dr A Sundara and are probably extensions of Megalithic cultures of Goa and Karnataka. Megalithic circles and Menhir-like structures were recently reported by Vinayak Parab and Amit Samant at village Pendur and Ghumade, respectively. (citation)

Rock cut Caves and Excavations:

In historic times, rock cutting activity has led to excavation of man made caves such as Panhalekaji cave group, Panhalekaji, Ratnagiri (1st century CE to 14the century CE) , Vimleshwar cave,Wada, Sindhudurg(6th century CE), Rameshwar Cave Velgave, Sindhudurg (12th- 13th century CE), Katalgaon Javade(4th century CE) and so on. The religious affiliation of these caves includes TherwadiBuddism, Vajrayana Buddhism, Natha Sects, Shaivism and Vaishnavism. Inspite of the laterite rock as medium of carving of sculpture, they exhibit fair workmanship and unique examples of religious iconography.



Complete folk pantheon (गावरहाटी) presided by fertility goddess Brahmani maay depicted in stone sculptures (पाषाण) at village Dabhil, Sawantwadi, Sindhudurg

Military forts and Strongholds:

In the medieval period, sea and land warfare became prominent with conflict between Marathas, Mughals, Adhilshahi, Siddhis and advent of colonial powers such as Portuguese, British and Dutch. This is reflected in building and renovations of Island sea forts, coastal sea forts, headland forts of creeks, land forts and hill forts. Manohargad, Manasantoshgad, Hanumantgad and Narayangad are some of the hill forts on the crestline of Sahyadris and Sindhudurg

district. The Sea forts can be divided into three categories, coastal (eg.Vijaydurg fort), island sea forts (Sindhudurg fort) and headland forts (Bhagwantgad fort, Bharatgad fort). Sea forts such as Sindhudurg served as Naval capital of Marathas and were of great geopolitical importance controlling the naval trade. The coastal forts in south Konkan are characterized by dry ditch excavated from the lateritic surface to create a separation outside the built fortifications of forts such as Devgad fort. Some of the specialised purposes that Sea forts served are as follows: To house the trading ships during rough season to protect estuaries and creeks, to control inland transport, as Dockyard for repair & maintenance of ships, to protect ships anchored in ports or creek and to replenishing Food and military supplies. Land forts such as Banda for and Kudal kot are few in number but provided for necessary administrative function at central locations. The Dutch factory at Vengurla is one of the only monuments of Dutch East India company on western coast which has characteristic Dutch Architecture and stands testimony of colonial presence on Indian soil. The architectural influences brought by colonial powers such as Dutch and Portuguese are reflected in local architectural choices of later times.



Fort Vijaydurg- example of coastal sea fort medieval military heritage-Location: Devgad, Sindhudurg

Temples and Shrines:

Vernacular is a very inapt word to describe the architecture and heritage of Temples in SIndhudurg region. The predominantly wooden and sloppy roofed temples of Sindhudurg are an excellent examples of local adaptation to the heavy rainfall conditions of Konkan and are built entirely in local material by village craftsmen.



Photo by : Raman Kulkarni

9.Tillari Bioregion: Mapping Conflict of Man and Nature

Onkar Khebudkar

Epilogue
This discussion is grounded in the insights provided to undergraduate students and was organized to explore various aspects of the region, including the context of natural heritage, the surrounding communities, and the conflicts between humans and nature. Numerous conflict zones exist, highlighting management issues related to wildlife, agricultural land, and residential areas within these settlements.The Tillari region, situated within the Western Ghats, a UNESCO-listed natural heritage site, is renowned for its diverse biodiversity. The Tillari River, known as Tilotama in Tudai Chandgad, Kolhapur district, originates here and flows westward, enriching the entire area near Kudase before meeting the Arabian Sea. The region's exclusive biodiversity, which includes numerous endemic and endangered species, as well as its rich flora and fauna, set it apart within the Western Ghats. (Khebudkar, SMEF's Brick Group of Institutes, 2021).
Data was gathered through direct field visits, photographic documentation, and interviews conducted during these visits, utilizing both primary and secondary sources. The researchwork primarily focuses on examining the coexistence of humans and nature in the Tillari bioregion, highlighting the ongoing transition within the shared landscapes. Extensive deforestation for commercial purposes has significantly disrupted the ecological balance. Human activities, such as encroachment into the migrating corridors of native animals and the destruction of local flora and fauna, have led to conflicts between humans and the natural environment. This study tries to uncover the rich context of the Tillari region, currently endangered by various uncontrolled elements and undesirable policies implemented by authorities. The research concludes by advocating for a holistic approach to sustainable landscape management, emphasizing the importance of community participation in natural conservation to preserve its identity amidst rapid commercialization and urbanization in the area (Khebudkar, SMEF's Brick Group of Institutes, 2021). Management-related guidelines and additional mapping conducted in the region are included in the full-length paper published in the conference proceeding.
Keywords
Private Forest; Deforestation; Shared landscape; Coexistence of man and nature; landscape management

1. Defining Context
Many scholars, researchers have discussed a lot about our natural resources and their importance in today's fast-paced life. Term nature comprises the idea of ecology around us that includes flora, fauna, climate, and ecological setup around us. Whereas conflict mainly focuses upon friction between nature and human intervention.
A bioregion refers to the geographic and natural ecological region. The unique geographic setting of the Tillari region, its natural heritage that is well known for its rich biodiversity, imparts significance to the context. Its response to geography, climate, natural setup, and rich ecology around is essential

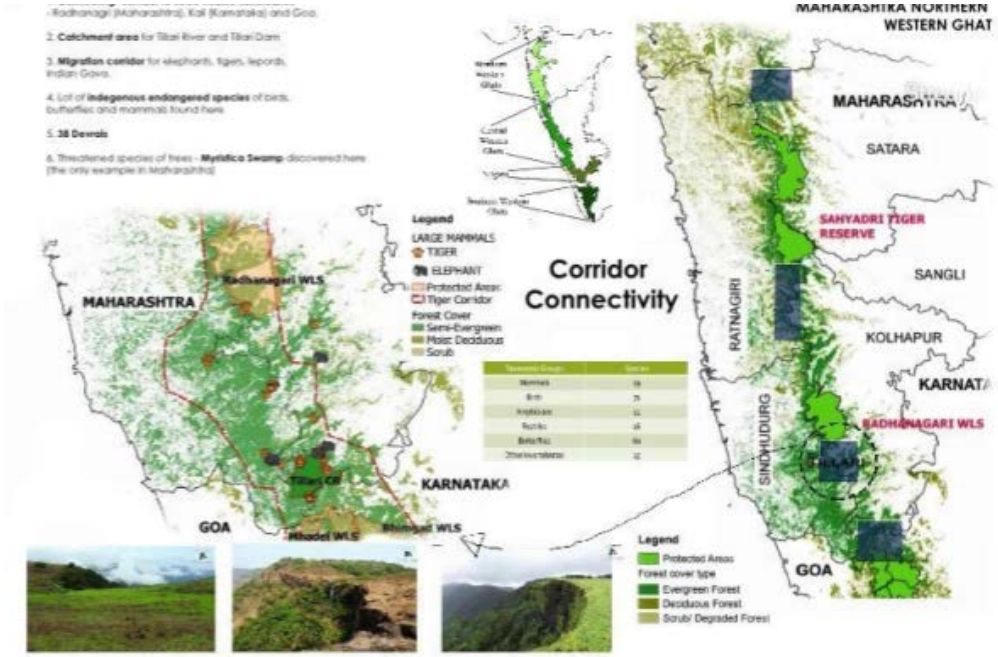


*Figure SEQ Figure * ARABIC 1: Maps and images establishing the context of the region Source: Images by Author and Mapping based upon existing geographic map Maharashtra Forest department*

processes. Exclusive biodiversity, endemic, endangered species, rich flora, and fauna marks its uniqueness in the Western Ghats (Ranjit Daniels, 2018).Tillari acts as a major connection between three forests areas Radhanagari in Maharashtra,

Figure 1 shows location of Mhadei wild life sanctury in Goa and Bhimgadh wildlife sanctury in Karnataka. Without the existence of Tillari reserve other forests would not survive. It's a connecting corridor between these three regions. Dodamarg Taluka is in the Sindhudurga district sharing boundaries with Goa and Karnataka. The study further talks about the Tillari bioregion undergoing though transition due to human intervention into its surrounding natural setup. Overall population in the region is about 60,000 and the forest area is about 30 SQ KM conserved area and about same is the pr ivate forest land (Panandiker, 2015).

Discussion revolves around five selected zones with three villages per zone around the Tillari conservation reserve. Zones 1,2,3 having moist deciduous forests where varied species of flora are found. Whereas zones 4 and 5 have a more dry deciduous forest with huge bird diversity. All zones are divided into maximum, medium, and minimum affected areas (Khebudkar, SMEF's Brick Group of Institutes, 2021).

These zones include the following villages
Zone 1 Hewale, Bambarde, Ghatiwade
Zone 2 Sonawal, Palye, Terwanmedhe
Zone 3 Ker, Morle, Ghotgewadi
Zone 4 Parme, Ghotge, Bodan
Zone 5 Kudase, Ambeli, Bedshi

These five zones as shown in Gigure 2 are representing the specific character of the ecosystem and change in landscape. Primary questions revolvs around why there is conflict between human and nature been observed in the Tillari region?

The study attempts to unveil the rich context of the Tillari region and its natural setup. Rapid urbanization and the use of modern materials certainly affecting the entire biodiversity of the region. Human intervention in the migrating corridors of the native animals and destruction of local fauna resulting in conflicts between man and nature. This discourse aims to study Tillari bioregion for the rich biodiversity of the selected

Issues related to Management of Shared landscapes

Different management level issues are mapped in the process of documentation. Some of those very crucial ne are mentioned further. Large population in the region moving towards monoculture in farming practices. These private farms has electric fencing around the farms for protection, which is resulting in the killing of passing of wild animals. In the last 10 to 15 years new landowners and migrating crowds from Kerala started plantations of Pineapples, Banana, Cashew, and rubber. In recent years elephants are entering Dodamarg taluka from Karnataka. This is the very first time after last 8 to 9 years elephants have found habitation in Maharashtra. Tillari having a major irrigation project and large bamboo plantation in Dodamarg Taluka its becoming main habitat for the elephants. The rampant deforestation for commercial plantations becoming large ostacles for the elephant corridors. Each zone is undergoing distinctive problems related to farming, animal conflict, biodiversity, and so on. There are interesting viewpoints based upon the concept of shared landscapes by Rege and Punjabi where they talk about Cashew plantations near forest patches becoming a habitat for some of the terrestrial mammals such as 9 out of 11 species were captured in cashew plantations adjacent to forest lands. More populations of the porcupine, wild pig, and sambar are seen in the manmade landscapes. Here benefit-sharing mechanisms enabling biodiversity conservation through livelihood sustenance fostering improved coexistence (Rege A, 2020).

Following are the observations at different zones,

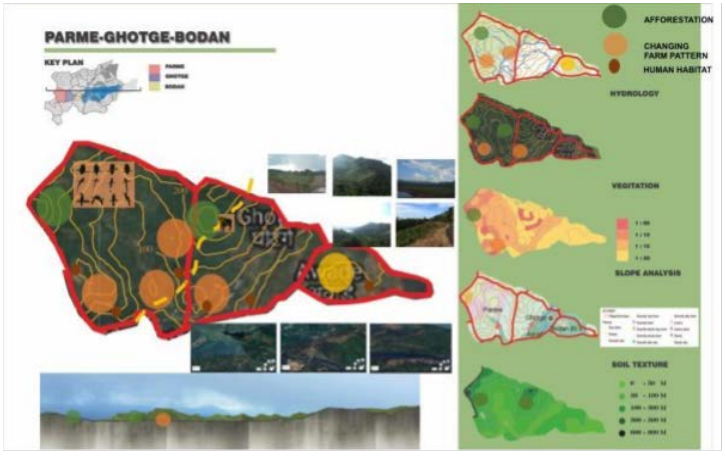


*Figure SEQ Figure * ARABIC 6* ***Zone 4 Parme, Ghotge, Bodan*** *mapping done by Onkar Khebudkar Published in Blurred boundaries conference Proceeding*

area and the transition through which the region is going through. Primarily mapping of several observations in five zones in the Tillari region is done with the help of actual site visits, refereing to government records, and random interviews conducted in villages adjacent to the forest land. Interviews of communities and experts were helpful in understanding the issues in the region concerning the conflict between nature and human settlements around the region. Discussion opens further scope for future guidelines for landscape management

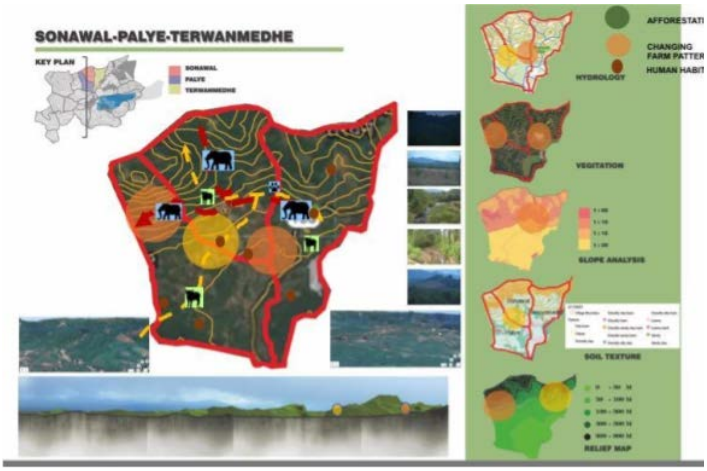


*Figure SEQ Figure * ARABIC 4* ***Zone 2 Sonawal, Palye, Terwanmedhe*** mapping done by Onk

the region (Khebudkar, SMEF's Brick Zone 1 having cluster of villages Hewale, Bambarde, Ghatiwade has a well-known myristica swamp which is the only example of a freshwater swamp in Maharashtra. This region having a large population of Elephants and importantly it's a significant migration corridor for Indian Gawa. Resistance to the movement of wild animals is marked largely in this region due to monoculture and fencing(Girish Panjabi, 2015).

Zone 2 with the villages Sonawal, Palye, Terwanmedhe Similar observations are seen in Zone 3 Ker, Morle, Ghotgewadi and Zone 4 Parme, Ghotge, Bodan including resistance to wild movement due to farming of cash crops. More forest cutting at the watershed areas is also seen in Group of Institutes, 2021)

these zones. Similar issues are faced in the Zone 5 having villages Kudase, Ambeli, Bedshi but significant to note here that high density of birds and mammals and black panther was sppotted here.

Study shows that Tillari bioregion is undergoing through major transition due to several manmade interventions. There is serious need to rethink upon guidelines for landscape management concerning to the maintaining ecosystems in the region. Guidelines for further landscape management plan are proposed considering zone-wise damage occurred due to human intervention. Broadly some areas come under conservation reserve and some of them have private forestlands, which are significant to manage ecological balance in the area. It is essential at this point when the entire world is at the thresholds of global warming and considerations for low carbon footprints are in forefront, an eco-sensitive corridor such as Tillari bioregion needs serious attention from policymakers to retain its value as a natural heritage.

Acknowledgements

This documentation was done with the assistance of faculty and students from Smt. Kashibai Navale College of Architecture, Pune. Portions of this article are derived from a conference paper presented and published in 2021 by the authors for “Blurred Boundaries: In Search of Identities” at SMEF’s Brick School of Architecture, Pune. The research was conducted as part of a master’s thesis in landscape

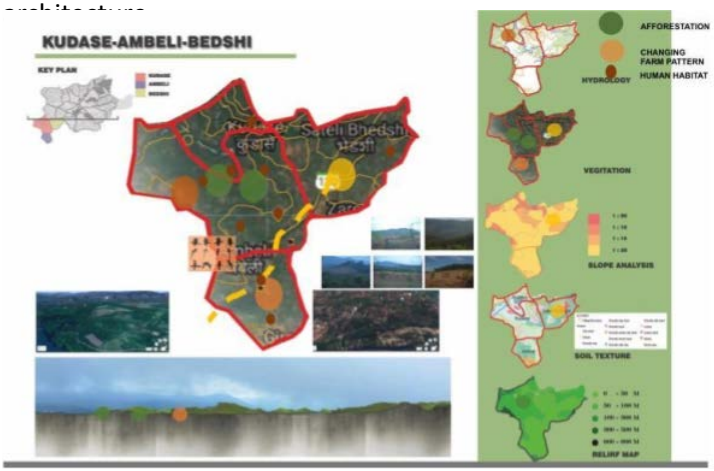


*Figure SEQ Figure * ARABIC 5* ***Zone 5 having villages Kudase, Ambeli, Bedshi*** *mapping done by Onkar Khebudkar Published in Blurred boundaries conference Proceeding*

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10.Understanding Settlement Patterns in Western Ghats

Vaidehi Lavand

Abstract:

This discussion examines the intricate relationship between nature, people, and culture, focusing on small settlements where natural resources, geography, climate and strategic locations in a natural landscape plays a vital role in shaping settlement patterns. Historically, human settlements have often developed around water sources such as rivers, seas, and lakes and its manifestation in the evolution of various settlement pattern visible in various regions of India. Settlement patterns especially rural small scale, reflect a close connection between people and their environment, shaped by geography, nature, and culture. In the Deccan region, known for its ancient rock formations and the biodiversity of the Western Ghats, distinct settlement patterns have evolved. This study, through case studies and academic research, offers insights into the evolution of both tangible and intangible cultural and natural interactions manifested in settlement patterns evolved in the context of natural western Ghats.

The selected case studies are based in the Konkan region of Maharashtra, an area with rich biodiversity and cultural traditions. Maritime trade and migrations from various parts of the world have significantly influenced the west coast, affecting both its physical form and cultural development. The co-existence of different castes and classes in tightly-knit village settlements, amidst a strong natural environment, has resulted in unique local languages, cultural traditions and identity. Five to six case studies provide representative examples of key factors affecting the evolution of village morphology and its response to the surrounding natural ecology. These representing river, seaport and religious settlements in the region are exemplified further. These settlements, still small in scale and largely non-urbanized, retain their distinct character. The study holds relevance in understanding of natural heritage and its deep connection with community, culture, and its expression in built forms.

Introduction:

The exploration of settlement patterns and the organization of spaces, particularly how they respond to natural resources, began with a set of fundamental questions guiding this research. After studying several settlements around the Western Ghats, it became evident that smaller units, both as individual structures and clusters, display unique spatial arrangements influenced majorly by geography, economic resources, and social hierarchies. These patterns reflect the inherent dynamism of rural landscapes strongly associated with ecology around.

In seeking to understand settlements as integrated systems, several key questions emerged: What factors most significantly influence settlement patterns? How does the site itself shape the formation of these patterns? What is the relationship between climate, geography, nature, culture, and people in shaping vernacular or folk architecture?

While this research touches upon aspects such as village

morphology and examples of local architecture—often the result of centuries-long interaction between humans and nature—these initial inquiries offer a foundation for further investigation. Understanding these intricate relationships and the forces behind settlement formation offers valuable insights for future research on the evolution of rural landscapes.

1.1 Decoding Settlement patterns and cultural landscapes

Jyotirmoy Sen defines settlement as a collection of human-made structures intended for habitation, representing a significant step towards adapting to the surrounding environment. He discusses the concept of unstable settlements, highlighting early humans as nomadic, migrating from place to place. The advent of agriculture, however, brought stability and helped in shaping organized settlement pattern. In defining the term "Cultural Landscape," Sen refers to it as the outcome of many generations of human occupancy, as described in the Oxford Dictionary of Geography. Cultural landscapes are the result of the combined efforts of nature and humankind, reflecting a deep, long-standing relationship between people and their natural environment—a concept extensively discussed by the UNESCO World Heritage Committee in relation to various sites on the World Heritage List.

According to UNESCO, cultural landscapes encompass a wide range of expressions of the interaction between humans and their natural environment. These landscapes are characterized by sustainable land use that considers the limitations and qualities of the environment, as well as a deep spiritual connection to nature. Techniques of land use often support biological diversity. Pratik Chakrabarti, in his book Inscriptions of Nature(Chakrabarti, 2020), delves into the multiple layers of historical interactions between nature, landscapes, and people, offering a rich discourse on the subject.

A methodical discussion on settlement patterns and local architecture can be perceived in Amos Rapoport's House Form and Culture, where he examines the various factors that influence settlement patterns and the development of local architectural styles across different regions (1969, Rapoport Amos).

The concept of cultural landscapes and various typologies has been extensively discussed and elucidated in numerous scholarly works on a broader scale. As per operational guidelines revised in the year 2008 Cultural landscapes fall into "three main categories (Operational Guidelines 2008, Annex3),

1. Landscape designed and created intentionally by man (word man indicates human being including all genders contributing to shaping of landscapes)
2. Organically evolved landscape a relict (or fossil) landscape and a continuing landscape
3. Associative cultural landscape focusing on religious, artistic or cultural associations of the natural element"

As a process of formation of Cultural landscapes communities cultivated terraces on lofty mountains, designed gardens, protected forest lands naming them sacred groves and religious landscapes. These expressions are a testament to human creativity, social progress, and the imaginative and spiritual connection to the natural world. They form an integral part of our collective identity. Cultural tradition plays a pivotal role in the management of natural landscapes (UNESCO World Heritage Centre - World Heritage List).

Mixed-use heritage sites that reflect the intertwined relationship between nature and human activity provide valuable insights into the synergy between environmental and cultural evolution. Notable examples include Pimachiowin Aki, a UNESCO World Heritage site, and the Ancient Villages of Northern Syria. Both of these sites demonstrate the deep, symbiotic relationship between nature, culture, and human settlements, illustrating how communities have adapted their way of life, architecture, and cultural practices in response to their surrounding environment.

In the case of Pimachiowin Aki ("the land that gives life"), it is an expansive forested region in Canada where the indigenous Anishinaabe people have lived for millennia, shaping the landscape through their traditional knowledge and land stewardship practices. This interaction between people and nature is a prime example of how cultural practices such as hunting, fishing, and spiritual beliefs are directly tied to natural resources, creating a living heritage that embodies the ongoing relationship between human communities and their natural surroundings.

Similarly, the Ancient Villages of Northern Syria showcase

a close connection between human settlements and the natural environment. These ancient villages, set in a harsh semi-arid environment, reflect the ingenuity of communities that adapted to the landscape through innovative agricultural techniques, water management systems, and urban planning. The architecture, land use, and social organization of these villages are shaped by the need to harmonize with the environmental conditions while addressing social and economic needs.

Drawing a parallel to the Western Ghats in the Konkan region, we can observe similar close-knit interactions between nature, culture, and people. The settlement patterns here are deeply influenced by the region's geography, with its rugged terrain, rivers, and coastal areas shaping the design and function of the settlements. The local architecture is adapted to the climatic conditions, often incorporating natural materials and reflecting a sensitivity to the surrounding environment. For instance, houses are often built on elevated plinths to withstand monsoon floods, and local materials such as laterite stone and timber are widely used, showcasing how construction practices are tailored to the available resources.

Moreover, the cultural traditions of the Konkan settlements are intertwined with their natural surroundings. Festivals, rituals, and community activities often revolve around the agricultural cycles, natural landmarks, and water bodies that are central to the region's livelihood. Religious sites and temples, many of which are nestled within lush landscapes, further emphasize the spiritual connection between the people and their environment.

Through these examples, we can see that the Western Ghats settlements share common characteristics with global examples of mixed-use sites that blend natural and human elements. They reflect a long history of adaptation, where the cultural practices, architectural responses, and settlement patterns evolve in harmony with the surrounding environment. This intricate relationship between nature, culture, and people not only helps define the identity of these regions but also serves as a valuable reference for understanding the broader dynamics of human-environment interaction. These settlements are living heritage sites that continue to evolve, maintaining their relevance in contemporary times while honoring the deep historical ties between people and their natural surroundings.

2 Discussion

2.1 Defining context: Western Ghats

The West Coast Plain is a strip of 50 kilometers in width and extends 1,500 km in length located between the Western Ghats and the Arabian Sea. The plains begin at Gujarat in the north and end in Tamil Nadu in the south. The northern

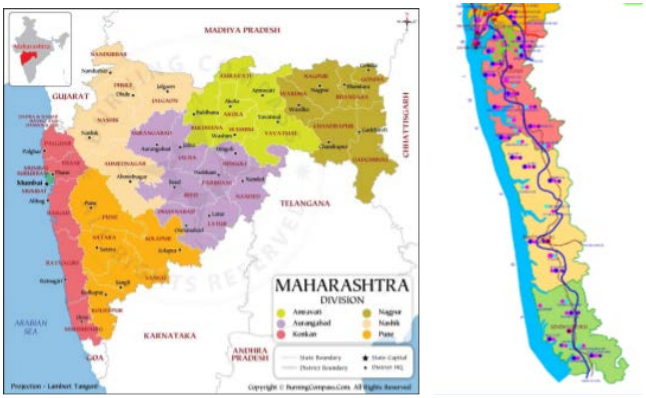


Figure 1 Map of Maharashtra state locating Konkan on west coast Ref: https://www.burningcompass.com/countries/india/maharashtra-division-map.html

portion of the west coast is called Konkan and the southern portion as Malabar. The north Malabar Coast is also known as Karnataka coast. The Western Ghats, popularly known as Sahyadri Hills, are well known for their rich and unique flora and fauna. In 2012: Inscribed on the World Heritage List under natural criteria 9 and 10. Sections here show the profile of western ranges adjacent to Arabian sea how it creates a wall of almost 1000 M tall and it helps flourishing the region with rich flora and fauna. As we move more towards south it goes on increasing the biodiversity and becomes denser in nature. The northern portion of the narrow coastal plain between the Western Ghats and the Arabian Sea is known as the Konkan Coast.

Figure 4 shows the schematic sectional profile of western ghats, sahyadri ranges, Deccan platue region at in Maharashtra. Variety of Flora and fauna respond to this variation in altitude and geographic profile in terms of dry, deciduous and evergreen varieties of 325 globally threatened flora, fauna, bird, amphibian, reptile and fish species (Western Ghats - UNESCO World Heritage Centre).

2.2 Settlements in Western Ghats

Several elements contribute in the formation of settlements such as Tangible Values of Settlements and
Intangible Values of Settlements those could be established as significant cases of cultural landscapes in the region. Settlements relation of water as significant element such as sea, river, lakes, wells, streams, Pats or canals play pivotal role in the formation of settlement patterns in Konkan.
Evolution of Indigenous Settlements as response to geography, climate and natural resources, Planning of a traditional house at an individual unit and at settlement level how the dynamics works in a module of one village with different wadies/ small settlements based upon caste systems in Konkan region of west coast (Cases of Konkan and Kudase settlement Tilari Conservation reserve).
Figure below shows location of rich biodiversity region of western Ghats well-known for its variety of species of flora and fauna. This region also played a significant role during maritime trades on Westcoast developing several port towns and seen migration of communities from varied regions of the world. West coast known for its connections with central Asia, Africa, Europe and America. Culture and tradition evolved here demonstrates its reflection upon food, rituals and religious traditions. But apart from this their strong connections with local biodiversity, geography and associations with surroundings is very contextual in its nature. Festivals involving local flora fauna in rituals, sacred groves as collective identities and heritage of communities here are notable in the region. Rural settlements still retain their strong associations with the nature around and geographic influence in terms of local architecture evolved (Malhotra and Srivastava Indira Gandhi Rashtriya Manav Sangrahalaya). Figures 6 and 7 present thesis projects by final-year students documenting two settlements in the Konkan region of the Western Ghats. The first, Anjarle, is a coastal religious settlement that experienced severe flooding during the 2019 monsoon. The second case is Panch Pandhari, a port settlement near Harnai, known for its large-scale fish market and significant role in the region's economy through fish exports.

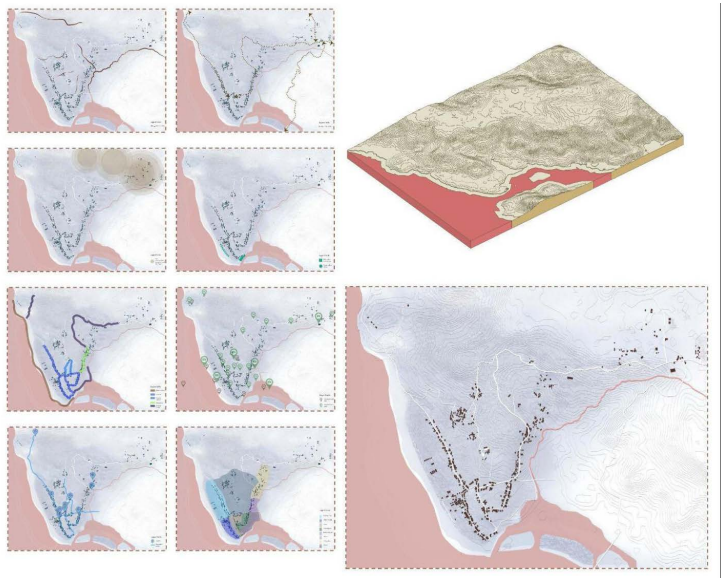
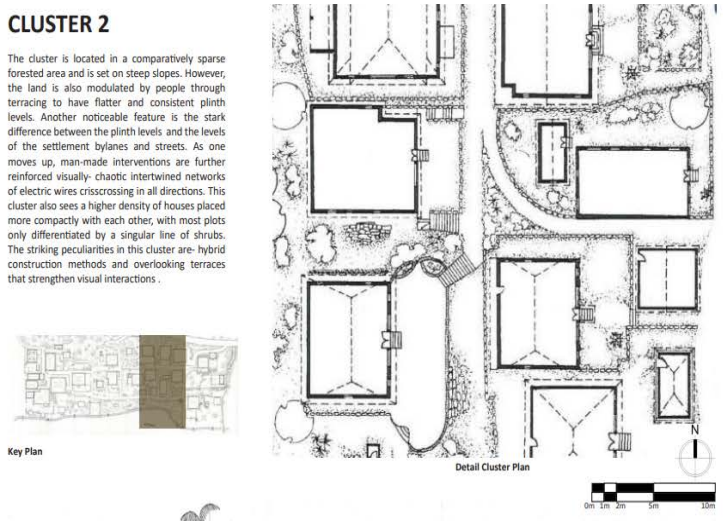


Figure 2Thesis Anjarle Village by Ar. Achyut Vanarase student of SMEF'S Brick School of Architecture Pune

Image 4 is from the book Deciphering Aparanta: A journey through Sindhudurg by Keskar Poorva exemplify settlement patterns and architectural style responding to geography and climate in the region. Soft borders and social interaction happening at these diffused areas between cluster of houses are significant to note. Areas around all the houses are accommodating all the natural attributes round the house such as plants, trees and fauna. Whereas Image 12 and 13 exemplifies economic resources dependent on local natural resources such as agriculture and fishing. Women's role in economic generation is vastly observed in these settlements. As depicted in Image 14, cultural traditions featuring mythological characters and performances that highlight key figures from these stories help maintain and reinforce the cultural associations and identity to the region..



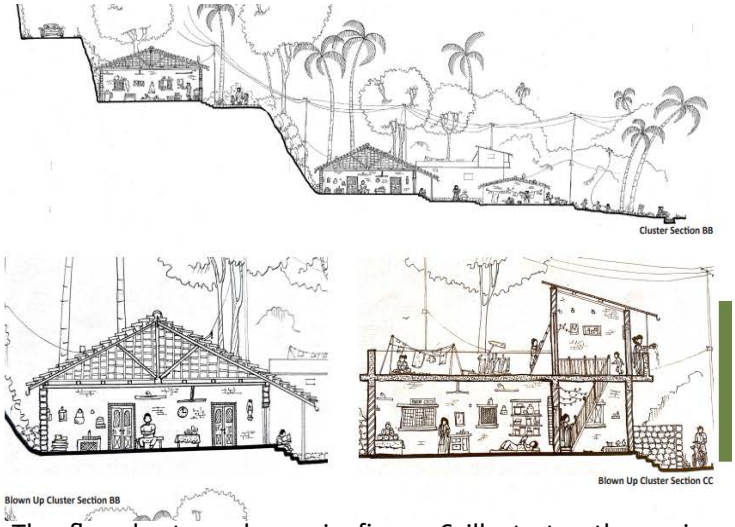


figure 3Images from Publication Deciphering Aparanta: A journey through Sindhudurg by Keskar Poorva, Sharduli Joshi and Ketaki Gujar by Brick School of Architecture publication

The figure illustrates a schematic land use pattern typical of small village settlements in Konkan region. These villages often feature a spatial hierarchy, with designated areas for community clusters and houses, followed by farmland, grazing areas for livestock, and protected forest lands like Sacred Groves. Sacred Groves are either community-owned or maintained by families, following customs and traditions passed down through generations. Their protection is based on mutual understanding and oral traditions. This close connection between natural ecological settings and settlement clusters is evident in Kudasewadi (2024, Lavand and Khebudkar). Similar patterns are evident in many settlements surrounding these potential natural heritage sites in the Western Ghats. Numerous factors have influenced the development of these settlement patterns and the evolution of local architecture over centuries. Conclusions

Geographical, Socio-cultural, and Political Factors Shaping Settlement Patterns

This study enabled the collection of data and a deeper understanding of settlements by examining a variety of settlement patterns that have evolved over time as process happening since many centuries. These processes are shaped by several key factors, including geography, natural resources, trade, religion, and strategic warfare and military locations.

The flowchart as shown in figure 6 illustrates the various types of settlements found in the Western Ghats, driven by five primary influences.

Strategic locations for warfare and political centers also played a crucial role in the development of towns near forts like Suvarna Durga, Vijaydurga, and Sindhudurga. Additionally, economic hubs such as the Harnai port settlement and other west coast villages emerged in response to geographic



figure 4:Women involved in agricultural works and vending water from the well at Kudase

First, natural resources such as rivers, seas, streams, mines, lakes, and canals support livelihoods, with fishing and agricultural practices developing around these resources. Second, the geographical context plays a significant role in shaping-built forms, as contours and climatic conditions influence local architectural styles that have evolved over

centuries. The selection of materials and construction techniques is closely tied to the availability of natural resources in the region.



Figure5:Women Selling fish at Harnai port Ref: Internet Settlement by Lavand Vaidehi (2024)

Third, social morphology is crucial in the development of historic settlements, particularly in shaping space, fostering community living, and defining land use patterns, all of which are evident in these settlements. Religion cast and class, a central aspect of Indian society, is also reflected in the organization of built forms, as many settlements have grown around religious centers.

These settlements serve as important examples of the interplay between nature and culture, highlighting the unique heritage of the Western Ghats. They are significant assets of India's natural heritage, where the nature-culture relationship is vividly demonstrated. Further research could delve deeper into both the tangible and intangible elements of these settlements, including material culture, local architecture, collective identity, cultural associations, and living traditions. This offers rich potential for continued exploration and study.

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11.Process of Inventory making for a settlement study

Ramiya Gopalakrishnan

Process of Inventory making for a settlement study

Brief about the process followed

Inventory making is a very crucial step in heritage conservation. It provides opportunity to document both tangible and intangible heritage, thereby ensuring that the knowledge about it is not lost. It becomes a document that provided information about the resource better, and aids in the effective management and conservation of the same. Inventories provide background information of the heritage resources which would allow urban planners to make sure that development happens sensibly and sustainably around the existing heritage. It also becomes a repository that provides valuable resources to researchers, historians and students.

The inventory designed for documenting the nature-culture resources of Kudase Village in the Sindhudurga district of Maharashtra was done based on the framework provided by INTACH. The inventory was simplified in such a way that students were able to follow the requirements of the document easily but at the same time making sure all the required information is recorded. This inventory format is designed to capture the essence of Kudase Village's vernacular architecture and cultural practices, ensuring that this knowledge is preserved for future generations.

Following are the key components and its description:

1.Site Identification:

1. Includes name and location of the site.
2. Type of structure such as house, temple, public building, community space, etc.
3. Ownership details of the resource, whether it is public/private, single/multiple)
4. Background and occupation of the owner(s).

2.Site Significance:

1. Historical details (builder, renovations).
2. Nature-culture associations (vegetation, topography, water bodies, land use).
3. Activities in and around the building.
4. Materials used for construction and their availability.
5. Seasonal use of spaces.
6. Natural medicines and their sources.

3.Intangible Heritage:

1. Occupations and unique techniques.
2. Cuisine and sources of raw materials.
3. Rituals and deities.
4. Birth and death rituals.
5. Folklore and mythology.

4.Structural Detail:

1. Age and year of construction.
2. Protection status (protected/unprotected).
3. Usage history (past and present).
4. State of conservation (signs of deterioration decay).
5. Traditional conservation practices for different building elements (façade, floors, and roof).

5. Community and Environment:

1. Community jobs and spaces used.
2. Types of animals and crops.
3. Cattle and agricultural practices.
4. Religious calendar and festivals.
5. Materials used for offerings.
6. Clothing types.

6.Architectural Description:

1. Mapping vernacular architecture (location, spatial organization).
2. Description of architectural elements (plinth, walls, doors and windows, roof structure, roofing material, flooring, columns, staircase, courtyards).

7.Threats and Documentation:

1. Threats to the site (natural, negligence, vandalism, urban pressures).
2. Inclusion of photographs for visual documentation.

Study focuses on documenting the geographical and anthropological aspects (Nature-Culture)
of the vernacular architecture in Kudase village, Sindhudurga district, Maharashtra

Blank Inventory format

A. Name of the site & location:
B. Type of structure (House/Temple/Public building/ Community space):
C. Owner of the site (Public/Private; Single/Multiple):
D. Occupation and Background of the owner/s:
E. Significance of the Site:

i. History
Who built the structure?
Any renovations/name of person responsible?
ii. Nature-Culture Association:
Vegetation:
Topography (flat land, rocky, contours):
Waterbody:
Land use:

iii. Intangible Heritage
Occupation: What occupation they are doing, techniques used which is
unique to their occupation.

Cuisine: Different types of food, where do they get raw materials for the
food from? Any unique ingredient?

Rituals: Deities they believe in. What rituals do they follow?

Birth and death rituals:

Folklore and Mythology: Are there any stories attached to the
structure/Location.

iii. Age/year of construction

iv. Protected/Unprotected (Yes/ No.)

v. Usage (past and /present; in use/abandoned)

vi. State of conservation
Shows signs of deterioration/advanced state of decay/ danger of
disappearance
Leakage, cracks, discoloration, vegetation growth or if any other)

vii. Traditional Conservation Practice(s)
How do they protect their buildings from changing seasons? Any
practices they follow? What materials they use?
For façade:
For floors:

For Roof:
Protection from rain:

F. Community:

Community job/spaces used:

Types of animals and crops:

Cattle and Agriculture practices:

Deities they believe in:

Religious calendar – festivals throughout the year-spaces used:

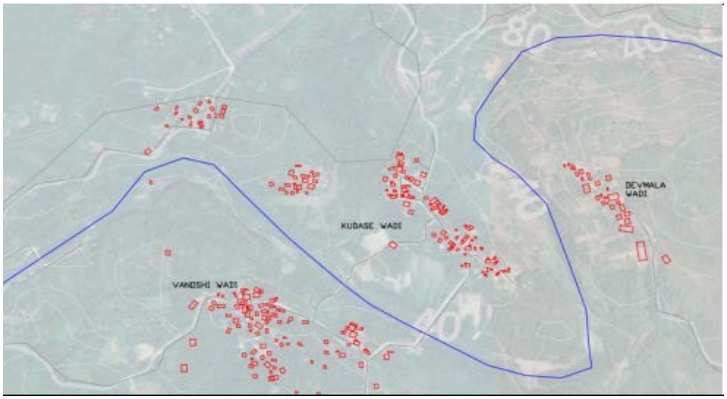
Materials used for offerings:

Clothing type:

Arts and Crafts specific to the community:

Language:

G. Mapping Vernacular Architecture:
Location (map):



Spatial organization and features (Schematic Sketches of Plans and Elevations):
Where animals are kept:
Water storage:
Grain storage:
Segregation of spaces for men and women:
Spaces associated with jobs:
Other services:
General spatial arrangement w.r.t cardinal directions/ belief system
Description of the Architectural Elements & Materials used:
Plinth:
Walls:
Doors and Windows/other openings:
Roof-Structure – Type of material:
Roofing material:
Flooring:
Columns:
Staircase:
Courtyards/open spaces:
Threats to the site (Natural/Negligence/Vandalism/Urban Pressures) Insert photograph:


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12.Exploring Sustainable Design Strategies and Material Use in the Settlements of Kudase: A Case Study on Vernacular Architecture

By Ar.Vinita Lulla

Abstract

This research paper examines the sustainable design strategies and material usage in the traditional settlements of Kudase, a region located in the Western Ghats of India. The vernacular architecture of Kudase reflects a deep understanding of the local environment, natural resources, and climatic conditions. Through an exploration of traditional construction techniques and material choices, this study highlights how these practices offer sustainable solutions for modern architecture. The research also investigates how contemporary architects can adapt these principles in a rapidly changing world to create resilient, sustainable, and climate-responsive settlements.

Keywords: Sustainable design, vernacular architecture, local materials, climate-responsive design, Kudase settlements

1. Introduction

Sustainable architecture has become a critical focus in the global effort to address climate change, reduce carbon emissions, and promote resource efficiency. Vernacular architecture, defined by the use of local materials and traditional construction techniques, offers time-tested solutions for achieving sustainability (Oliver, 2003; Rapoport, 1969). In this context, the settlements of Kudase provide a unique example of how traditional design strategies can align with modern sustainability principles.

Located in the Western Ghats, Kudase is characterized by its hilly terrain, tropical monsoon climate, and a rich history of vernacular architecture that is responsive to its environment (Gupta & Chattopadhyay, 2019). This paper explores the architectural heritage of Kudase and its inherent sustainability, examining how the region's-built environment addresses local challenges such as heavy rainfall, humidity, and limited resources. The study further investigates the lessons that can be drawn from Kudase's vernacular practices and their potential to influence contemporary sustainable architecture.

2. Methodology

This research adopts a qualitative approach, utilizing case studies from existing structures in Kudase. Field surveys were conducted to document construction techniques, material use, and design strategies. Interviews with local inhabitants and builders provided insights into traditional knowledge and practices (Pandya, 2005). Additionally, climate data and sustainability metrics were incorporated to assess the performance of these buildings in terms of energy efficiency, water management, and material sustainability (Gupta & Kumar, 2015).

The study compares traditional design strategies with modern sustainable technologies, identifying opportunities for integrating vernacular wisdom with contemporary architectural practice (Kumar, 2018). Archival research on the region's history and building culture further supported the analysis.

The methodology further incorporated comparative analysis

between traditional Kudase homes and newly constructed reinforced concrete houses in the same region. This allowed for the identification of differences in thermal comfort, water management, and long-term maintenance. Thermal comfort was assessed using both qualitative feedback from occupants and spot quantitative readings of temperature and humidity during summer and monsoon months. This triangulation ensured that observations were validated through multiple perspectives rather than being purely descriptive.

3. Vernacular Architecture of Kudase

3.1. Historical Context

The architecture of Kudase has evolved over centuries, shaped by the region's geographic and climatic conditions. Traditional homes were built using locally available materials such as laterite stone, mud, and timber. These homes reflect the needs of the community and the environment, designed to withstand the region's heavy monsoon rains and high humidity levels (Oliver, 2003).

Historically, Kudase's settlements were largely self-sufficient, with homes built by the community, relying on local resources and craftsmanship. The absence of mechanized construction ensured minimal environmental impact, and buildings were often adaptable to seasonal changes (Bhatt & Scriver, 1990).

Analysis & Findings:

While these design elements appear traditional, their efficiency aligns with modern building physics. For example, the use of stilts not only protects against flooding but also promotes air circulation beneath the structure, reducing ground moisture and heat transfer. Field observations revealed that homes with larger overhangs had visibly less water damage on walls compared to newer reinforced concrete constructions nearby. This highlights the resilience of vernacular forms when compared to modern concrete houses, which often trap heat and suffer from dampness due to poor detailing (Gupta & Kumar, 2015).

3.2. Climatic Responsiveness

The vernacular architecture of Kudase is highly responsive to the local climate, particularly the monsoon rains. Homes are typically elevated on stilts to protect against flooding, and roofs are designed with steep slopes and wide overhangs to channel rainwater effectively. Courtyards provide communal spaces and natural cooling, while thick mud or laterite walls offer thermal mass, regulating indoor temperatures (Singh & Rao, 2021).

In contrast, recently built RCC houses in Kudase displayed considerable heat gain during summer afternoons and moisture accumulation during the monsoon, requiring mechanical cooling and dehumidification. Traditional homes, with their elevated plinths, sloped roofs, and courtyards, maintained greater thermal balance, confirming the long-term efficiency of passive vernacular solutions when compared to modern methods that often prioritize speed and cost over climatic responsiveness.

4. Sustainable Materials in Kudase Architecture

4.1. Local Material Usage

A hallmark of Kudase's architecture is reliance on locally sourced materials laterite stone, mud, and timber—which have low embodied energy and minimal processing requirements (Fathy, 1973). These natural materials also improve indoor environmental quality by reducing synthetic pollutants.

Analysis & Findings:

One key finding is the social perception of materials. Many locals expressed that mud and laterite are now associated with "poor" or "old-fashioned" housing, despite their environmental performance (Pandya, 2005). This highlights that sustainability must address cultural and aspirational factors, not just technical efficiency.

4.2. Challenges and Modern Adaptations

The use of vernacular materials is challenged by declining skilled labor and structural limitations. However, hybrid systems—like stabilized mud blocks or bamboo-steel composites—offer durable, sustainable alternatives (Kumar, 2018; UN-Habitat, 2014).

Notable adaptation efforts can be observed in several Indian contexts where stabilized compressed earth blocks (SCEB) are employed for affordable housing, combining ecological performance with durability. Similarly, bamboo reinforced with concrete foundations has been applied in cyclone-prone coastal regions, where its flexibility adds resilience. These examples indicate that vernacular approaches can be successfully hybridized with modern technologies, creating scalable solutions for both rural and urban contexts.

5. Design Strategies for Sustainable Settlements

5.1. Water Management

Rainwater harvesting is widely practiced in Kudase, with homes integrating rooftop collection and storage systems. Permeable courtyards allow water infiltration and aquifer recharge. These strategies are embedded as everyday practice rather than "green innovations" (Gupta & Chattopadhyay, 2019).

Analysis & Findings:

It was observed that younger households rely increasingly on municipal water supply, leading to neglect of traditional systems. This underscores the need for low-maintenance and aspirational designs to sustain these practices.

Situated in the Western Ghats, Kudase receives an annual average rainfall between 2500–3000 mm (UN-Habitat, 2014). Traditional water management strategies, such as sloping tiled roofs channeling rain into storage tanks and permeable courtyards aiding infiltration, were finely tuned to this context. However, modern impervious surfaces, such as cemented courtyards, have disrupted natural recharge cycles and increased surface runoff. Reintegration of vernacular methods with contemporary techniques like bioswales and decentralized wastewater treatment can therefore provide a holistic model for water-sensitive design in rapidly urbanizing regions.

5.2. Energy Efficiency and Passive Design

Kudase homes demonstrate measurable thermal comfort, maintaining indoor temperatures 3–4°C cooler than outdoors, without mechanical cooling (Gupta & Kumar, 2015). Passive ventilation, orientation, and thermal mass reduce reliance on external energy.

Analysis and Reflection:

A key takeaway is that Kudase demonstrates sustainability as rediscovery of embedded wisdom rather than futuristic innovation. Practices like courtyards and community construction embody resilience, showing that simplicity and cultural knowledge often surpass technology-driven solutions (Rapoport, 1969).

Extended field observations confirmed that indoor comfort levels were retained for longer durations without fans or cooling devices, even when outdoor humidity was high. Relative humidity indoors remained 5–10% lower than outdoors due to effective ventilation. Previous studies across India affirm that such vernacular houses can maintain 3–5°C cooler indoor conditions throughout the day, thereby reducing dependency on electricity for thermal comfort (Gupta & Kumar, 2015).

6. Lessons for Contemporary Sustainable Design

The vernacular architecture of Kudase provides several critical lessons for contemporary sustainable design. First and foremost, it demonstrates that sustainability is not a modern innovation but an embedded practice derived from close interaction with the natural environment. The reliance on local materials such as laterite, mud, and timber exemplifies a resource-efficient approach with low embodied energy. These materials, when used with traditional craftsmanship, not only reduce environmental impact but also ensure comfort and resilience. Modern architects can learn from this to prioritize regionally available and renewable materials over industrialized, high-carbon alternatives (Oliver, 2003; Fathy, 1973).

Second, Kudase highlights the importance of passive design strategies in achieving comfort without excessive reliance on mechanical systems. Courtyards, cross-ventilation, shaded verandas, and thermal mass walls are strategies that have been proven effective in moderating the region's humid tropical climate. These techniques show that low-tech solutions can be equally—if not more—effective than high-tech interventions, and that reducing operational energy use begins with climate-sensitive design rather than with add-on technologies (Gupta & Kumar, 2015).

Third, the case of Kudase underscores the social and cultural dimension of sustainability. Despite their proven efficiency, materials like mud and laterite are often rejected today because of their association with poverty or "outdated" living standards. This cultural perception poses as significant a barrier as technical feasibility. Contemporary practice must therefore focus on rebranding vernacular techniques—through hybrid construction systems, modern aesthetics, or architectural innovations—that transform traditional elements into aspirational choices (Kumar, 2018). This means architects must work not only as designers but also as cultural interpreters, bridging traditional wisdom with modern aspirations.

Finally, Kudase demonstrates the value of community-driven design. Historically, settlements were built by and for the community, resulting in architecture that was adaptable,

shared, and collectively maintained. This participatory model provides a lesson for contemporary urban practice, where sustainability is often pursued in isolation by individual buildings or clients. By fostering community engagement, shared infrastructure such as rainwater harvesting, energy micro-grids, or green common spaces can be developed, echoing the collaborative ethos of vernacular settlements (Singh & Rao, 2021).

Taken together, these lessons show that vernacular practices are not static traditions but dynamic frameworks adaptable to modern challenges. They encourage architects to move beyond a purely technological model of sustainability and towards one that integrates climate sensitivity, material responsibility, cultural relevance, and community resilience. In doing so, contemporary sustainable design can achieve both environmental performance and social acceptance, ensuring that sustainability is lived and practiced rather than merely engineered.

Beyond design, Kudase also points to the necessity of supportive policy frameworks. While rating systems such as IGBC and GRIHA acknowledge passive design and local materials, their mainstream application is still limited. Incorporating vernacular strategies directly into building codes and incentivizing their adoption could accelerate sustainable transitions. Internationally, UN-Habitat (2014) emphasizes hybrid approaches that combine indigenous wisdom with modern innovation as a central pathway for climate-resilient design. Thus, Kudase's lessons extend beyond its local boundaries, offering globally relevant insights into how heritage-informed strategies can meaningfully shape contemporary architectural practice.

7. Conclusion

The vernacular architecture of Kudase demonstrates that sustainable design is not a new invention but a lived tradition deeply embedded in local knowledge. The findings highlight that passive cooling, water-wise practices, and material efficiency are environmentally sound and measurably effective. At the same time, challenges such as declining skilled labor and the perception of traditional materials indicate that sustainability must also address cultural and social dimensions.

Sustainability cannot rely solely on technology but must draw from embedded wisdom and community resilience. Hybrid systems that respect vernacular values while meeting modern standards offer a viable pathway forward. Kudase illustrates that resilient design is as much about people and culture as it is about buildings and climate, guiding future settlements that are both contextually grounded and globally relevant (Kumar, 2018; Singh & Rao, 2021).

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Photo by -saili Palande

Documentation of Kudase Wadi, Tillari Region

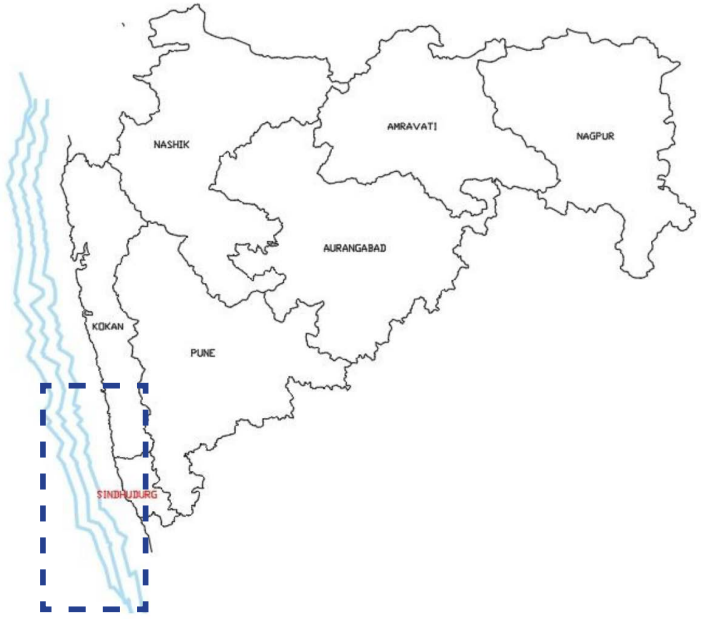
Dr. Vaidehi L., Vinita L., Ramiya G., Gurudatta I., Shraddha M.
S.Y. B. Arch batch of 2021-22, SMEF's Brick School of Architecture, Pune

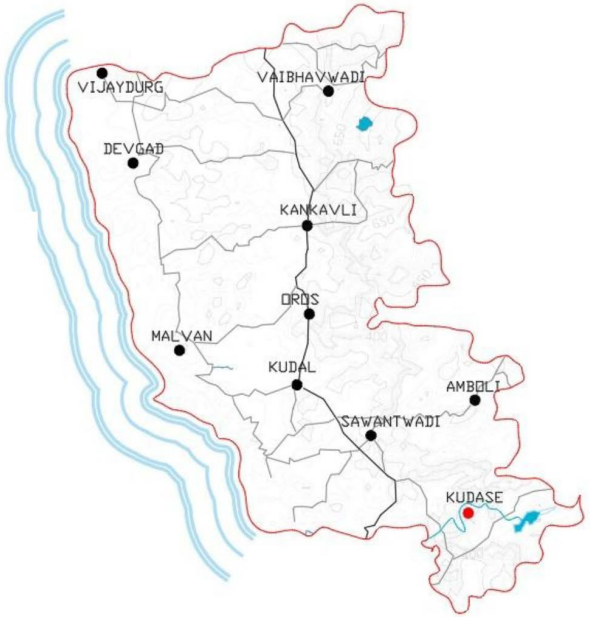
The Konkan region of Maharashtra located on the west coast of India is well known for its rich biodiversity and diverse people and culture. It's a small strip of land between the Western Ghats and the Arabian Sea. Thane, Rajgad, Ratnagiri, and Sindhudurg are the four districts in the Konkan region that retain its character. The history of place and its connection with the world goes back to the 6th Century. Sea routes connecting these districts to several Arab and European parts as Arab and European writers note trade routes. (HADAP, S., & JOGLEKAR, P. P. 2008)

Very strong ecological regions surround the Sindhudurga district. On the eastern side, it shares a boundary with Kolhapur district and on the Northern side it shares its boundary with Ratnagiri District; on the south, it has the union territory of Goa. On the western side, it has a deep blue coastal edge of the Arabian Sea. Tillari River is the magnet of the region, flourishing its surrounding biodiversity. Tilari bioregion is located in Dodamarg Tehsil under the Sindhudurga district. The unique geographic setting of the Tilari region, its natural heritage, and part of wthe estern ghats that is well known for its rich biodiversity, imparts significance to the context. Western Ghats was nominated as a UNESCO World Heritage site in the year 2012. The architecture of the place settlement pattern as a response to strong geographic, climatic, and rich ecology is essential to document and talk about in current rapid modernization processes.

Exclusive biodiversity, endemic, endangered species, rich flora, and fauna mark the uniqueness in the Western Ghats. Tilari forest reserve is located in the southern part of the Sahyadri mountain ranges. Sahyadri is well-known for its biodiversity and scenic beauty. The average height of Tilari Ghat is between 800 to 1000 M from sea level (Jog, 2009). Tilari comes under Dodamarg Tehsil under Sawantwadi district. Tilari is the seventh wildlife corridor in the state to be declared as a 'conservation reserve'. The total area of the Tilari region in the catchment area of the Tilari River that provides water to Sawantwadi and Goa is around 29.53 Sq Km. The Tilari irrigation project which is a joint venture of Maharashtra and Goa completed in the year 2009. This project submerged seven villages of Maharashtra along with 200 hectares of forest land from Tilari. Tilari Valley has a long history of animal habitation. Upper Dodamarg region is an important migration corridor for elephants, tigers, and Indian Gawa or wild bison whereas lower areas were observed with immense bird diversity.

Introduction





Tucked between the towering Western Ghats and the vast West Coast, Kudase is a village that has planted its roots deep in history and nature. This serene settlement, located in the southernmost reaches of Maharashtra's Sindhudurg district, embodies the essence of Konkani tradition, where life flows in harmony with the land, the seasons, and the wisdom of generations past.

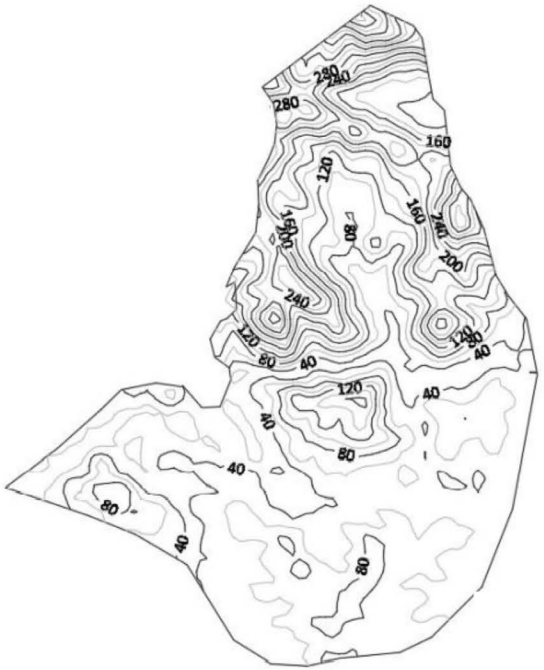
Stepping into Kudase is like stepping into a world untouched by time. The lush landscape is painted with coconut palms, swaying supari trees, and dense forests, creating an ever-present invitation to wander, to explore, and to marvel at nature's artistry. The village's terrain, shaped by the undulating contours of the Western Ghats, reveals dramatic elevation changes, with some areas reaching heights of 240 meters. The Tilari River, a lifeline for the region, bypasses Kudase, adding to its rich natural ecosystem.

Kudase is divided into five wadis (hamlets)—Bharpalwadi, Dhangarwadi, Kudasewadi, Vanoshiwadi, and Devmalawadi—each with its unique character, yet all sharing the same unwavering sense of community. The history of the village dates back to the Mauryan era, and while much of its built environment evolved post-independence, its Konkani soul remains intact. Festivals like Shimga (Holi) are celebrated with infectious enthusiasm, and the vibrant clothing, art, and cuisine reflect the rich blend of agriculture, fishing, and craft traditions that sustain the village.

The steeply sloped roofs, adorned with clay and terracotta tiles, are not only aesthetically pleasing but also essential for directing the heavy monsoon rains away from the structure. These homes, simple yet profound in their design, are a mirror of the people who inhabit them—resilient, resourceful, and deeply connected to their surroundings.

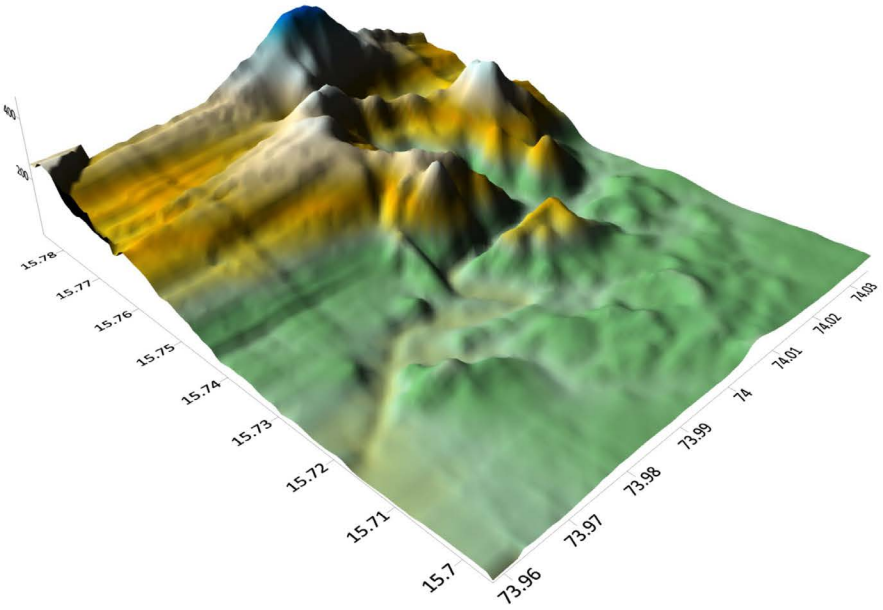
With its rich cultural heritage, strong communal spirit, and deep reverence for nature, Kudase is more than just a village—it is a way of life. This book seeks to capture the essence of Kudase, delving into its history, geography, culture, and architecture, while painting a vivid portrait of a place where the past and present exist in seamless continuity.

As you journey through the pages ahead, may you find yourself transported to the heart of Konkan, where tradition thrives, nature reigns, and the spirit of Kudase endures through time.



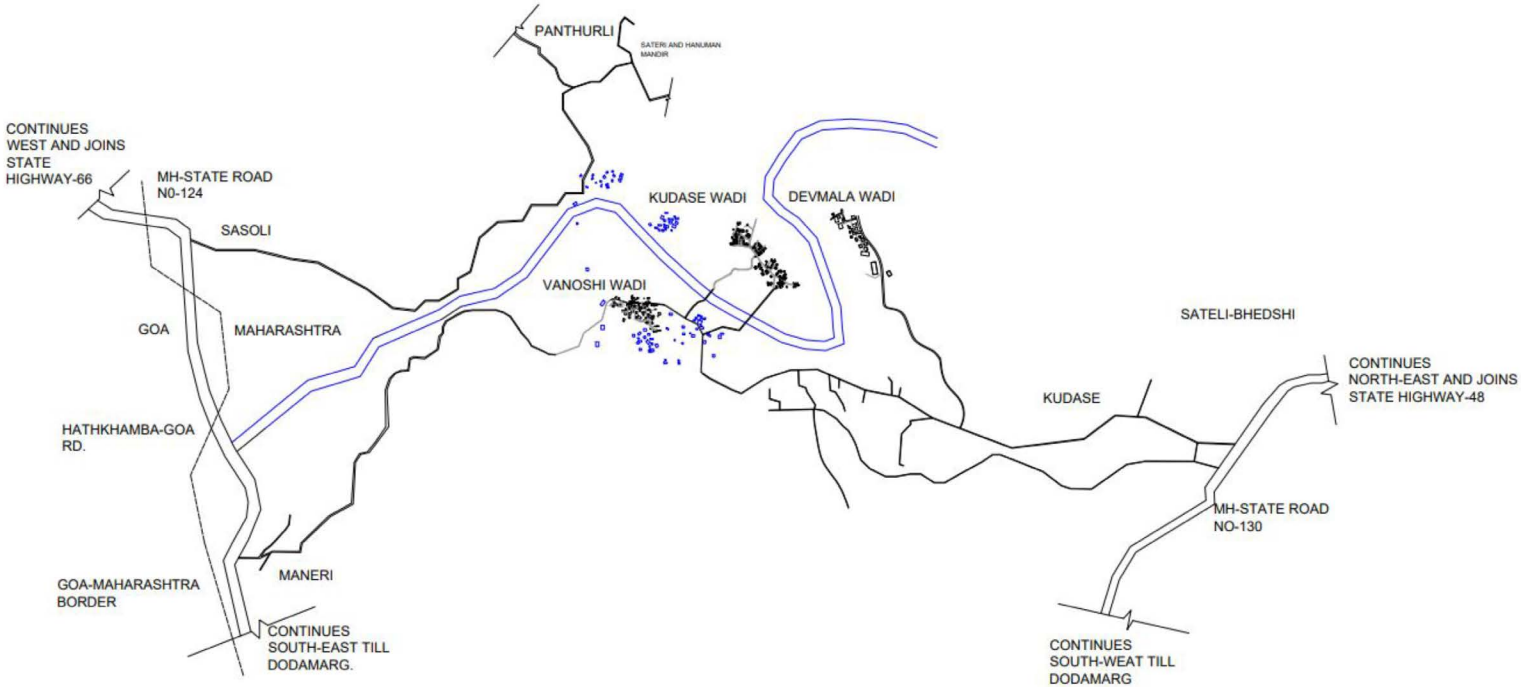
Taluka Map

A flat one with a slight slope towards the river, is an excellent buildable and cultivable area .



Model indicating Terrain

A hilly terrain which does not provide for a buildable space , protecting the ecology and forest cover



Access points to the Kudase village are from Maharashtra, Goa, Sateli bhedshi, Ambeli, Panturli, Awade.

Location and Accessibility to Kudase Village

Photo by : Raman Kulkarni

Significance of Tillari Region

Tilari is the seventh wildlife corridor in the state to be declared as a ‘conservation reserve’. The total area of the Tilari region in the catchment area of the Tilari River that provides water to Sawantwadi and Goa is around 29.53 Sq Km. The Tilari irrigation project which is a joint venture of Maharashtra and Goa completed in the year 2009. This project submerged seven villages of Maharashtra along with 200 hectares of forest land from Tilari. Tilari Valley has a long history of animal habitation. Upper Dodamarg region is an important migration corridor for elephants, tigers, and Indian Gawa or wild bison whereas lower areas were observed with immense bird diversity.

The climate of Konkan region - Konkan region is categorized as a hot and humid zone.
The region witnesses all climatic seasonal changes i.e. monsoon, winter, and summer. Being adjacent to Coastal areas usually get affected by heavy monsoon rains. The average temperature is Min 21.880 C, Max 31.590 C, and Average Rainfall is 3300mm. Monsoon- June to September, rainfall between 300 mm up to 900 mm. July and August are quite rainy. Sometimes due to heavy rain, the region may observe floods. Sindhudurg district has seen major rainfall in the year 2020 and 2021. Winter season is most pleasing for nature expeditions. The Tilari region is mostly visited by nature researchers during this season, spotting many native and migratory bird species.



Economy

The local economy is based on agriculture and local food products. This is the major source of income for the locals. Rice is the major crop taken in the region. The crop is sown in the month of June-July and harvested in the month of November-December. All the rituals are performed before sowing as well as at the time of harvesting. Rice

When the rice crop flourishes, there is a tradition of taking out 5 ‘ture’ (the straw on the upper end of the crop in which rice is embedded) and making offerings to the lord and nature as a way of thanking them for the good harvest. These 5 ‘tures’(only the straws) are hung at the entrance, the rice from one of them is offered to tulsi in the front yard, the rice from the second is kept in ‘kitchen mandani’ as a blessing and the rice from other 3 is cooked into a delicious kheer (kind of a local sweet dish), offered and enjoyed by all later as prasad or consecrated food.

During monsoon, the holy month in the local dialect known as Shravan, the time of coconut harvest, the coconut that was placed in the temple last year and offered prayers to, is changed. The changed coconut is then again planted as the coconut season is year-round. Traditions of these kinds demonstrate sustainable ecological practices still carried forward by local communities and manifest nature-culture relationships.

Shri Laxmi, and Lord Shiva Shri Mhasoba are the gods that are present in their temples and are offered prayers regularly. There is a myth that lord Mhasoba takes round around their village at night to ensure their protection. There are six Sacred groves around Kudase village. Deities in these Sacred Groves are considered as protecting gods of the village. These protected forest areas are rich in biodiversity and have water sources such as streams.

Culture and Community

Ancient trade route connections with various civilizations have resulted in many migrations happening in the region. Islam, Christianity, and Hinduism mark its prominent religious influence on several communities residing here. This had influenced the dialect, food, and traditions here. Siddies in the region also demarcated west coast connections with Africa and several influential personalities such as Malik Ambar reached the Indian subcontinent through this coastal line.

Konkani language is known for its softness and tone in India showing the influence of Marathi, Hindi, and Persian influence.

Wood carvings, construction works in Jambha local laterite stone, and Kavi art are seen in several parts of the region. Kaavi art famous and very Indigenous art form in the region defines strong connections between nature culture and people.

Sindhudurg district is especially predominantly influenced by Malvani culture and language. Malvani culture is a sub-set of Konkani culture, with Malvani people being mostly of Konkani ethnicity.

Language

Malvani is a dialect of Marathi that's spoken in the Malvan region of Maharashtra, India. It's influenced by Konkani and has its distinct vocabulary, pronunciation, and grammar. Many Malvani plays, songs and traditional stories are famous in the region.

Food

Malvani cuisine is a popular part of Konkani culture, and is known for its use of coconut. Being close to sea significantly fish is used in food some examples of Malvani dishes include surmai curry and fry, mori masala, bombil fry, and Malvani mutton curry. The food here draws influence from Maharashtrian, Goan and Karnataka cuisine. One of the most popular drinks to come out of the Konkan belt, Sol Kadhi is a mildly spicy drink made with kokum and coconut milk. Several food items such as pickles, sweets and are made out of local fruits and are exported around the world.

Sindhudurg's festivals, rituals, and folk music are an integral part of its cultural identity. From the religious fervor of Ganesh Chaturthi to the folk songs of the Koli community, the region offers a unique blend of coastal and traditional Maharashtra culture. The music, dance, and ceremonies are not only a celebration of life but also a way to preserve the stories, beliefs, and heritage of the people living in this coastal region.

Seasons predominant monsoon plays an important role in the the way of life and rituals followed in the region. Ganesh Chaturthi, Narali Purnima, Diwali, Padawa, Navratri, and Shimaga, are celebrated at a large scale where people belonging to small settlements and villages come together. Sindhudurg being a coastal region has a tradition of worshipping water bodies. Many rituals are dedicated to sea gods and goddesses, where people pray for a good fishing season or for the safety of seafarers. Out of this significant one that still exemplify the relation between nature and culture is Narali Purnima where locals perform rites to honor sea gods, seeking protection and a good catch. This includes offerings of coconuts, rice, and other items to the sea.

Annual fair where mythological stories are performed out of those Dashavatara is known in all the villages.



Photo By Saili Paladne

Arts and Crafts

Most of the people here are either farmers or carpenters. They still have the long going tradition of hand-carved art but the times are changing and so are the methods. Therefore you can definitely see a lot of saag and jamun tree plantations which are mostly used for this artwork. Multipurpose wooden and metal tools are used for grubbing up the farm, removing tough coconut skin, cutting down trees, protecting against wildlife, etc.



Festivals

For the people of Kudasewadi, after Ganeshotsav, Shimgotsava has a special curiosity. From Falgun Panchami to Pournima, Holi is a special festival. Mango, palm leaves, twigs, and dry sticks are cut and brought to public places in open fields.

Holi is made and decorated by bringing together the branches of Mada and Pophali trees. A flower pylon is made on it. This Holi is lit on the Hutashani full moon in the evening after sunset. It is worshiped as per the rules and regulations of the villagers. Puranpoli's Naivaidya is shown. On the occasion of Holi, bombs are hurled from the destructive thoughts in the atmosphere and the mind, with the belief that they should be destroyed by burning the vices.

On the day of Falgun Shukla Panchami to Hutashani Pournima, it is customary to take out the palanquin of the local village deity in small and big villages of Konkan. In this palanquin, masks and images of village deities are kept. The palanquin goes out dancing and dancing in a certain rhythm. In every wadi of the village, dance is performed in front of the house. Sahan is the taste of the village but the place of God's work is chosen. Devkarya is performed at this place only during the palanquin program. Palkhi dance day is different in every village. Many Chakarmanis travel from Mumbai, and Pune to their village in Konkan to participate in this Palkhi dance program.

The custom of blaspheming God is still prevalent in Konkan. Going to the temple many times to remember God on good occasions. It is customary to keep in touch with God by wearing. Satisfaction of attaining a kind of mental satisfaction is very rare. Every comment of the priest is followed by a public confession of "yes, maharajya" as one's property.

The most celebrated festival in Vanoshiwadi is arguably Gauri Ganpati. There is a total of 44 houses that wait forthe arrival of ganpati bappa every year . At the end of 5 days, all houses bring their deities to the Sabha mandapa , where Ganpati aarti is sung with devotion. After the aarti all the deities are taken down to tillari river in the ceremonious rally, where visarjan of bappa takes place. There are some exceptions though, if there has been a death in the family or a lady in the house is pregnant, visarjan does not take place in that house.

1. On every Monday the residents from Vanoshiwadi gather in Sabha mandap to sing devotionals songs known as Bhajans and listen to Mythological stories associated with gods and godesses locally known as Puran Kathas.
2. The Hindu brahmins in the community abstain from eating meat on Wednesdays, Fridays and Sundays of every week.
3. There reside some Christian families as well who are descendants of the Portuguese from goa. The Christians marry malvani women to spread their religion and this is what is believed by the locals where they reside in harmony.
4. Diwali and Dussehra are also celebrated with the same enthusiasm. Diwali is celebrated by gathering in groups and enjoying each others presence in their life, Rejuvenating their bonds and memories with the diwali cuisine.
5. Sateri devi : Sateri devi is the Kuldevi as well as gram devi of vanoshiwadi. At the time of jatra the annual fair celebrated in her name,it is believed that she stays in the village for one night ' ek divsacha mukam' where Everyone gathers and sings bhajans to please her.
6. Pendheshwar : He is known as The god who fulfills every wish. The temple of pendheshwar has no deities in the garbhagriha . There is a belief that if you offer 5 offerings of fruits with utmost devotion all your wishes will be fulfilled.





Religious Beliefs












Representations of various forms of gods and goddesses associated with natural elements could be observed in every settlement in the Konkan region. Goddess Sateri is one of the most influential deities seen in the region.

Sateri goddess of Shakti and protector of the representing power, protection, and the nurturing aspect of nature. While her specific origin stories vary by region, Sateri is often associated with the coastal areas of Maharashtra, Goa, and parts of Karnataka. In some traditions, she is considered a local manifestation of the goddess Durga or Parvati, with a focus on her protective and maternal aspects. In folklore, Sateri is often linked to stories of divine protection, where she is invoked for the safety of sailors and fishermen who venture into the unpredictable sea.

Sateri temples are seen in every settlement in the Sindhudurg district. It's also observed in Kidase villages and settlements next to it.

Sateri is a goddess of immense significance in Sindhudurg

collective festival.

Dashavtara

The Dashavatara (or Dashavtar) is a significant cultural and religious tradition in Maharashtra, and in the Sindhudurg district, it is an integral part of local customs, particularly in the Konkan region. The term Dashavatara refers to the ten incarnations of Lord Vishnu, which are believed to appear in different forms to restore cosmic order. In Sindhudurg, the Dashavatara is celebrated through elaborate folk performances, rituals, and processions that highlight the various avatars of Vishnu, each symbolizing different aspects of life and the universe. The language and songs are in a local dialect that connects the audience with the performance and the characters.

and the coastal Konkan region. As a goddess of the sea, fertility, and protection, she occupies a central place in the lives of local communities, especially fishermen and those connected to the land and sea. Her worship, through rituals, folk songs, festivals, and stories, reflects the deep connection between the people of Sindhudurg and their environment, showcasing the reverence they have for nature and its divine powers.

Jatra annual fair. Dashvatara is performed in every fair and

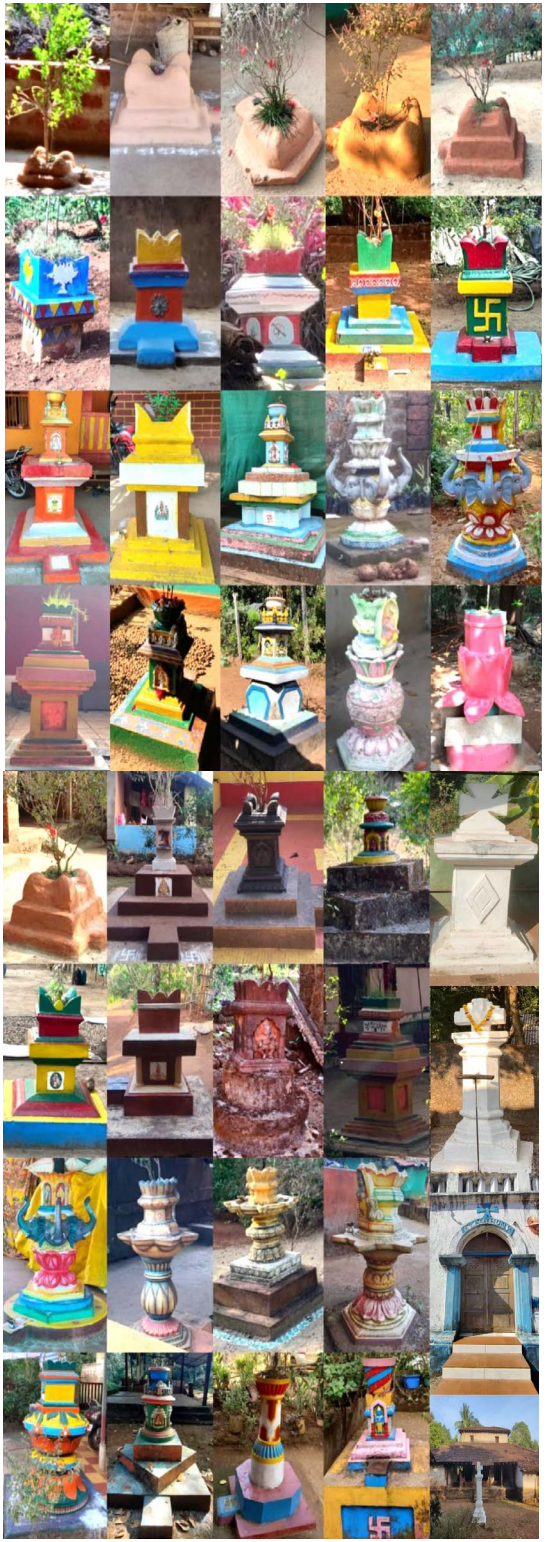
Significance of Ecology

Protected forest areas locally called as Devrai's or sacred Groves are ecological hotspots where there are breeding grounds and migratory paths of many species of flora and fauna. Deomala wadi has 3 such sacred grooves around it which are considered very holy in the region. Vanoshi wadi has two in its vicinity and Kudase wadi has one.

The prominent element that was noticed in kudase was that each house had a tulsi vrindavan in the front yard of their house just at the entrance. Tulsi (basil) is known for its medicinal properties and is also considered as an auspicious religious symbol, hence people consider it to be very sacred and worship it every day by watering it in the morning and by lighting a lamp (diya) in the evening. The Vrindavan or the pot in which the basil is planted comes in various sizes and materials from mud, laterite, concrete, etc.

A few of the names of local plant species planted around the house those having medicinal properties are mentioned below.
Tulsi / Holy basil: This is observed at every house mainly for its medicinal properties It is planted at the front. It keeps mosquitoes away. Crushed leaves and their juice are used as remedies for cough and cold. It's Good for skin diseases, it can heal wounds.

Lajalu /Mimosa Pudica: If any of your external body parts are sore, the leaves of Lajalu can be crushed and turned into a paste to be applied to that portion. You will feel that your skin is being pulled, which is part of the process. Keep it for one day and then wash it with warm water. This will reduce the pain.





Coreopsideae
Dahlia flower



Piper nigrum
Black pepper/ (Mirii)



Paulownia tomentosa
Princess Tree



Tectona grandis
Sag (teak) tree



Artocarpus heterophyllus
Jackfruit tree



Plinia edulis
Cambuca tree



Allamanda cathartica
Golden Trumpet flower



Jasminum Multiflorum
Jasmine



Jatropha dioica
Nettlespurge tree



Tabernaemontana divaricata
Pinwheel flower



Musa acuminata
Banana tree



Psidium guajava
Peru (guava) tree



Colocasia esculenta
Aalu



Pachystachys lutea
Nees flower



Cadellia pentastylisooline
Cadellia tree



Cocos nucifera
Coconut tree



Hibiscus schizopetalus
Hibiscus



Mangifera indica
Mango tree



Carica papaya
Papaya tree



Azadirachta indica
Dahlia



Rosa
Rose

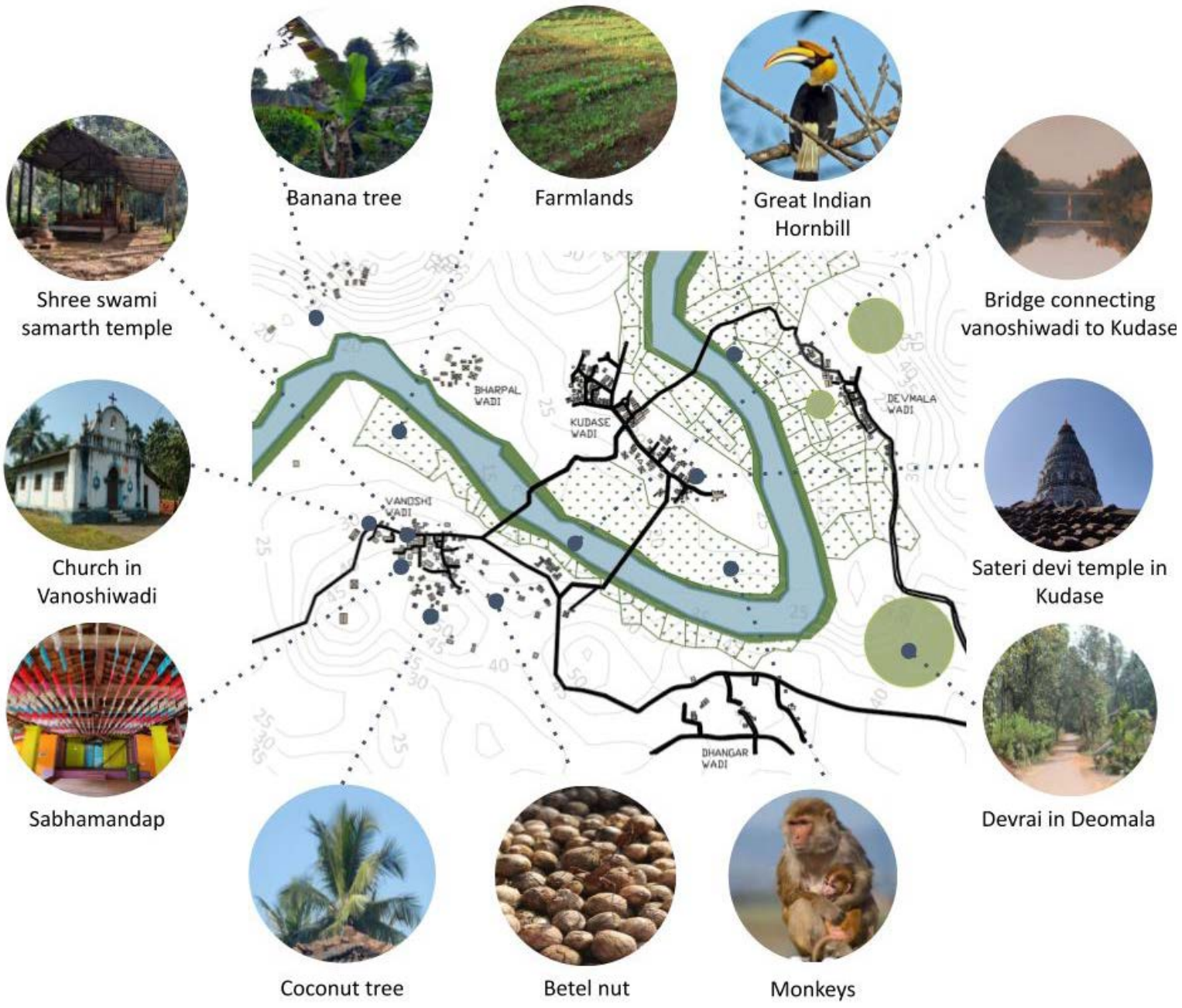


Devrais (sacred grooves) are ecological hotspots where there breeding ground and migratory paths of many species of flora and fauna



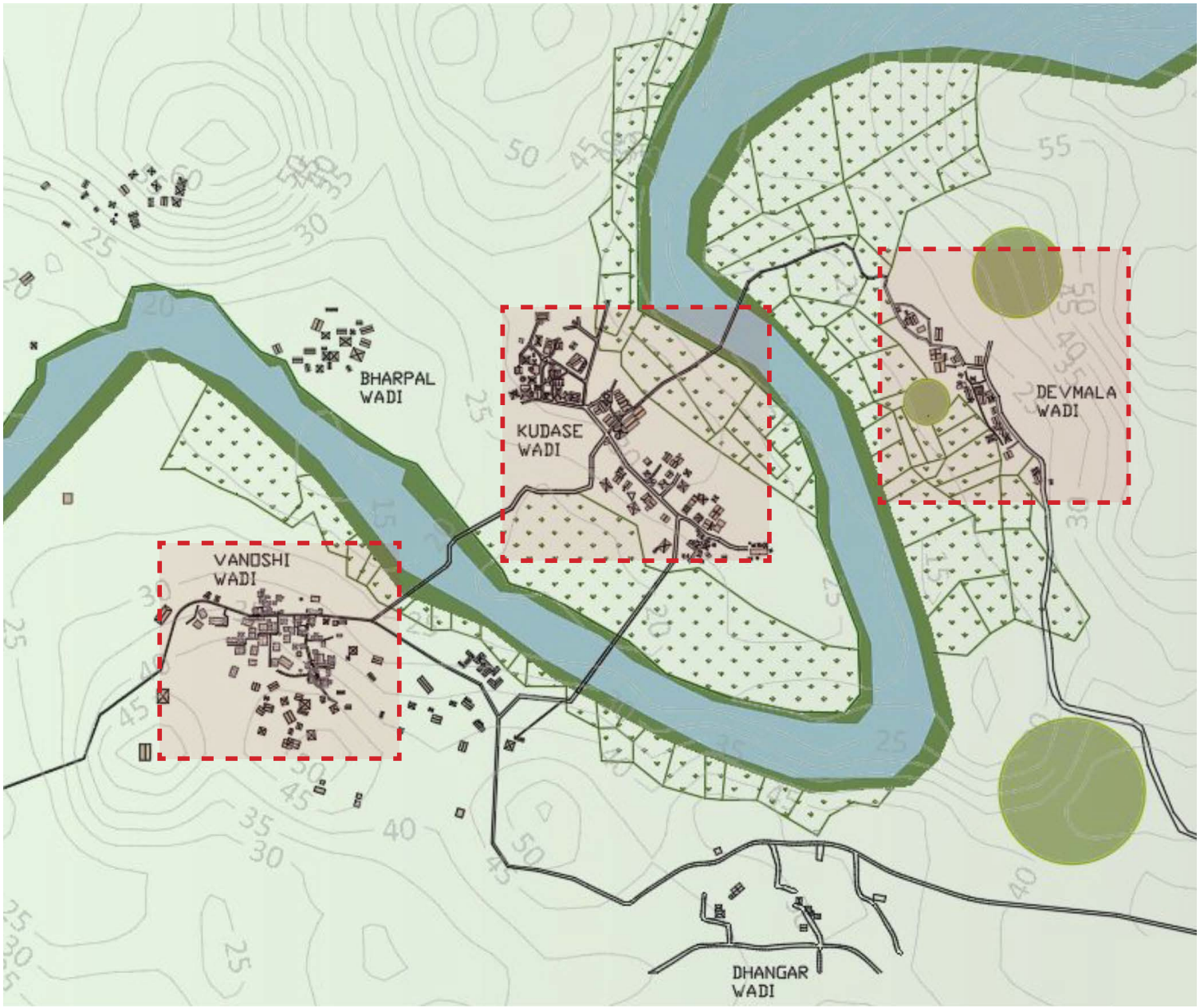
Location of Devrai's (Sacred Groves) in the region

Significance of Tillari Region



Important natural and man-made markers of the region

Location of Documented Wadis



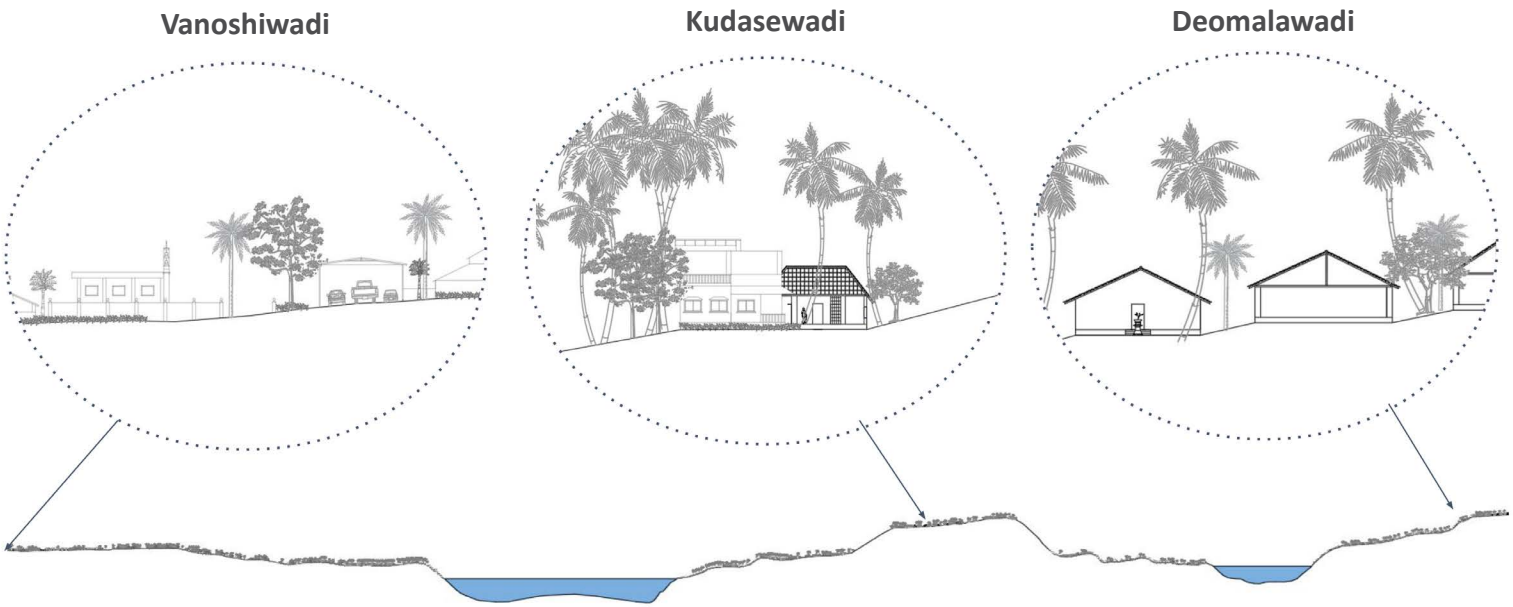
Schematic site plan of the region

Wadis and Clusters

Kudase settlement Consists of 5 wadis, namely Bharpalwadi, Dhangarwadi, Kudasewadi, Vanoshiwadi and Deomalawadi connected by bridges around the Tillari River. The map of Kudase that showcases its contours reveals a stark elevation difference throughout the village.

To keep the ecology around the river like mangroves that hold the soil together, the rich silt, fish and turtle breeding along river banks, minimize drainage and pollution into the river, and to prevent devastation during floods the settlements are placed away from the river banks into the interiors. Water from the river is pumped into the farmlands and wells in the three wadis for daily and agricultural use.

Details of all the clusters and studied houses are elaborated in further discourse this will highlight the characteristics of the settlement pattern and local architecture.

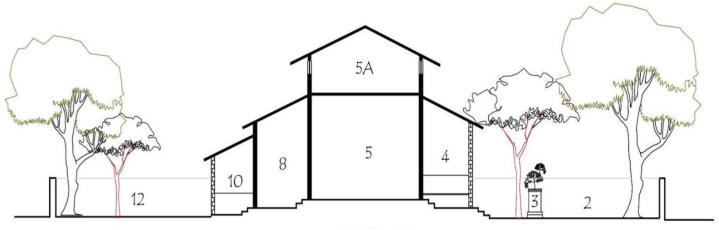


Schematic site section through the region

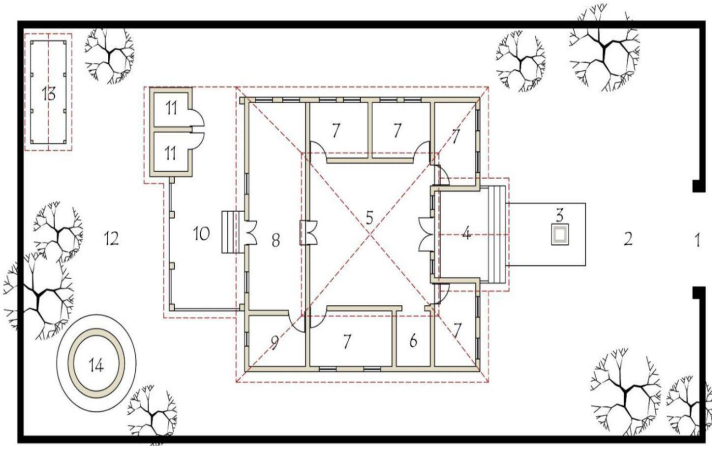


Key Plan

Typical House in the Region



Typical Section



Typical Plan

1. House Entry
2. *Aangan* - Frontyard
3. *Tulsi Vrindavan* - Place for holy plant
4. *Osari* - Semi open loby area
5. *Majghar* - middle room next to living room

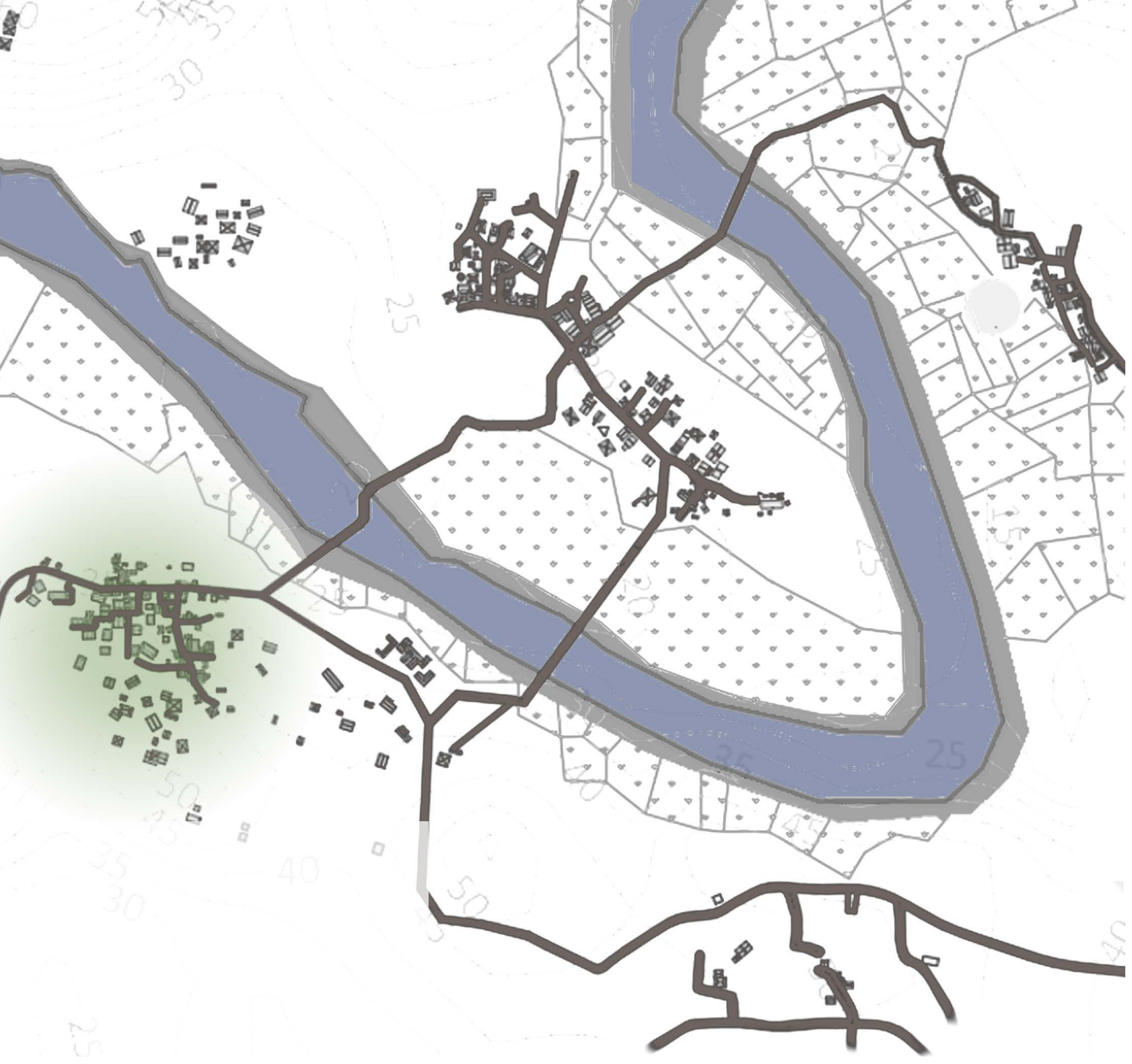
5a. *Mala* - Attic

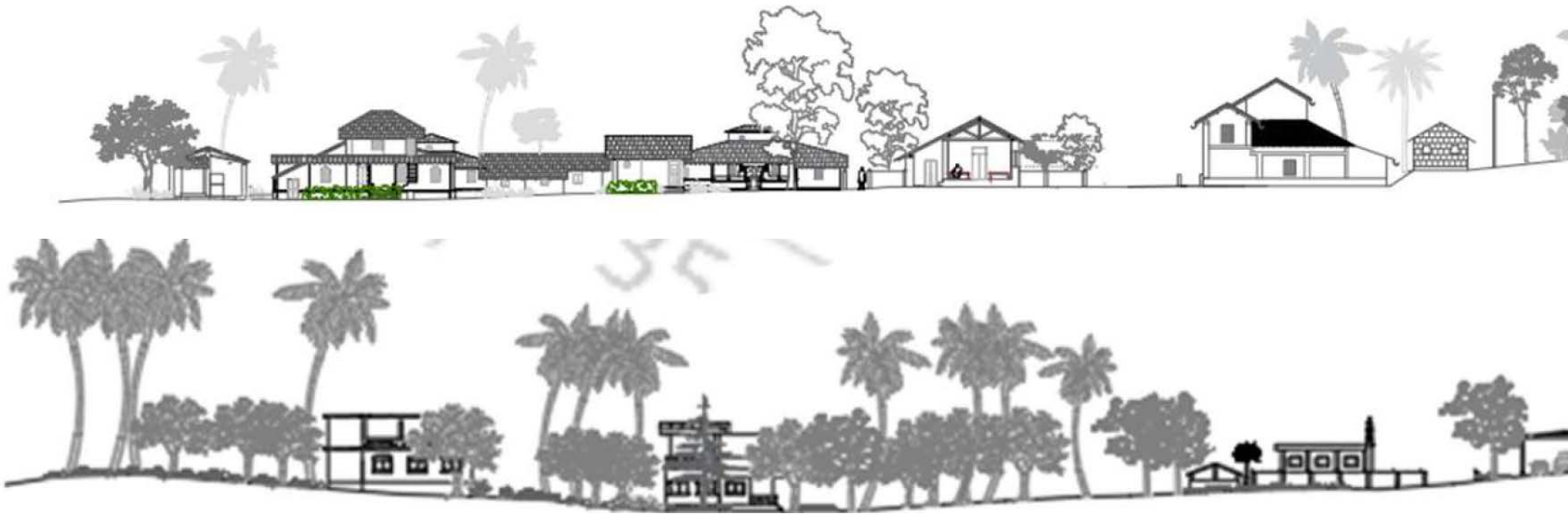
6. *Devghar* - Abode of God
7. Private rooms
8. Kitchen
9. Store room
10. *Padvi* - Semi sheded area at the back of house
11. Washroom
12. *Paras* - Backyard
13. Shed for storage
14. Water well



Vanoshiwadi

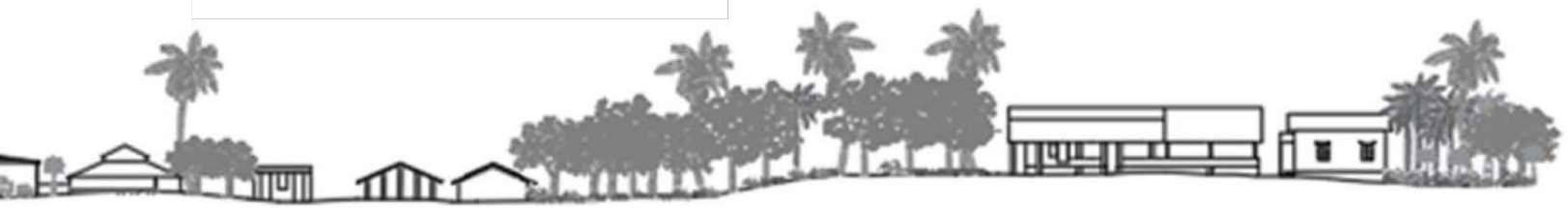




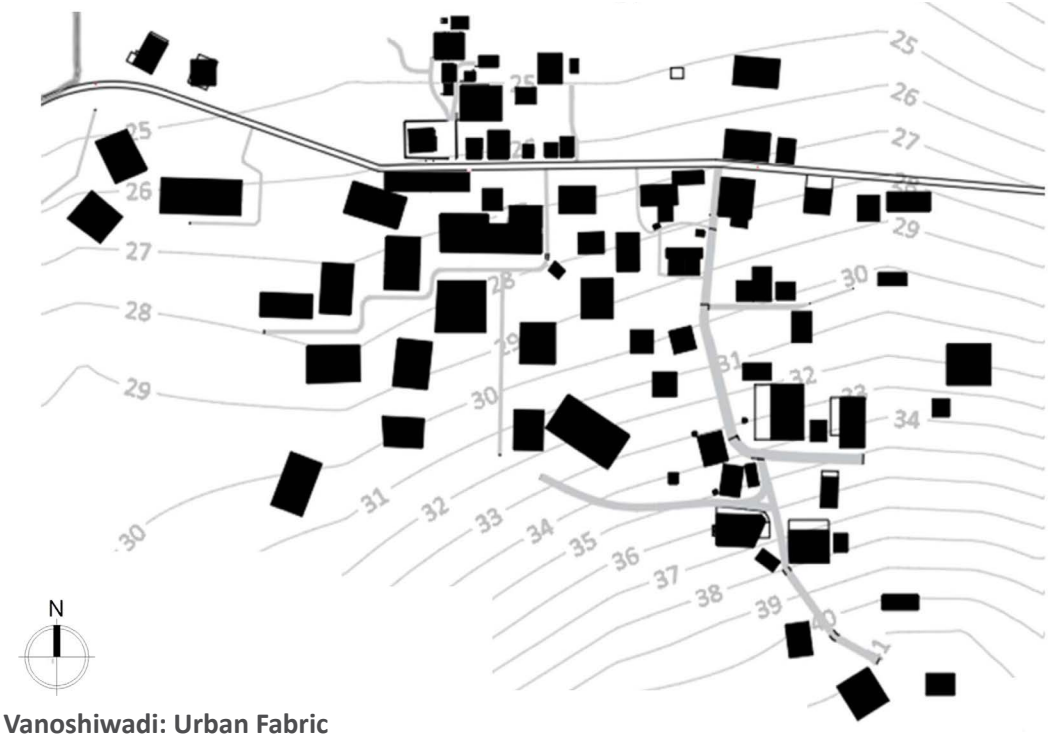




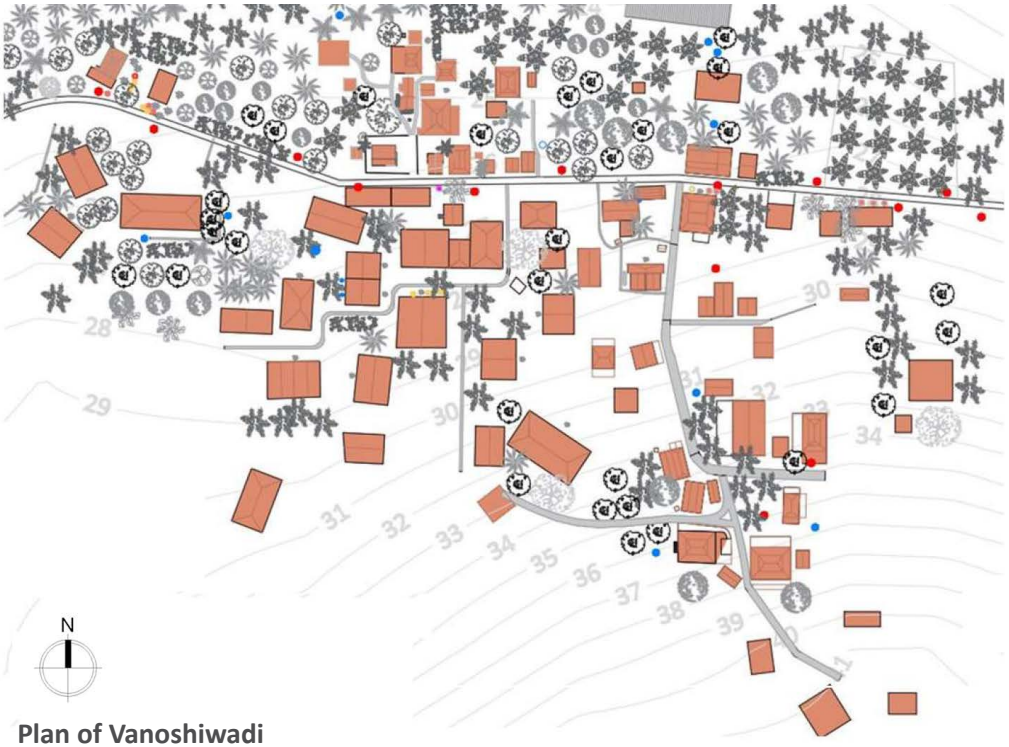
SECTION AA



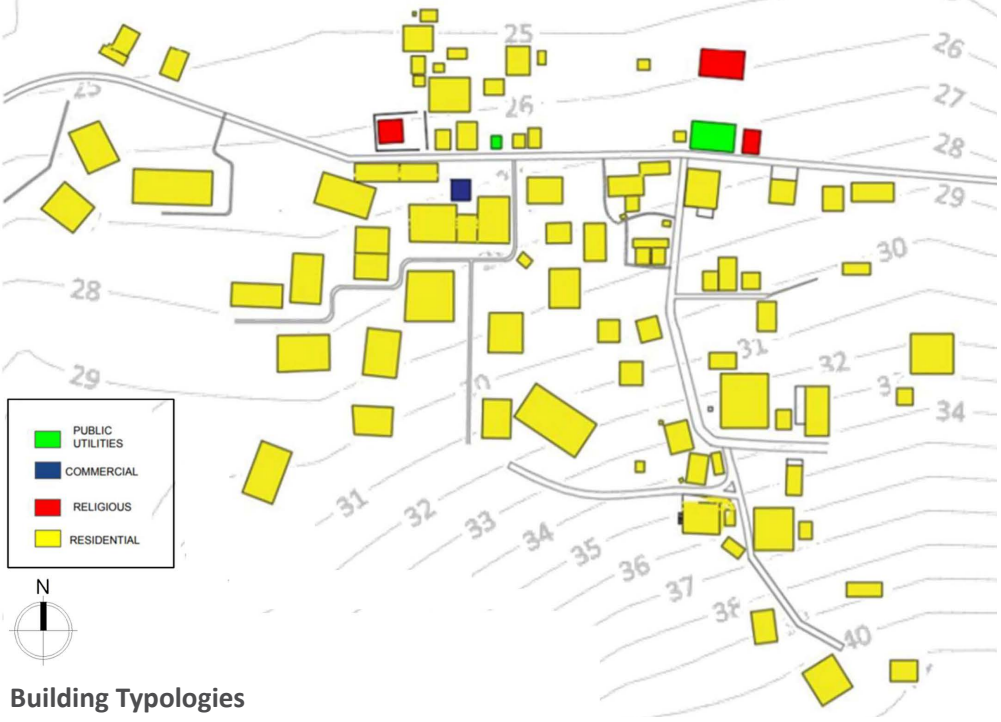
SECTION BB



Vanoshiwadi: Urban Fabric



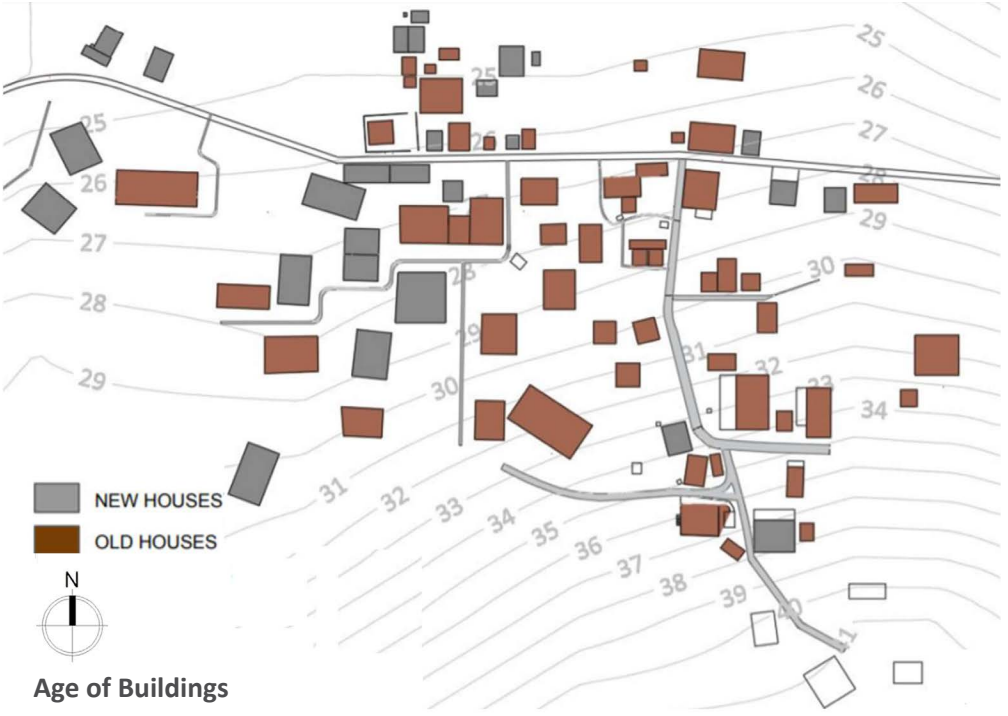
Plan of Vanoshiwadi



Building Typologies



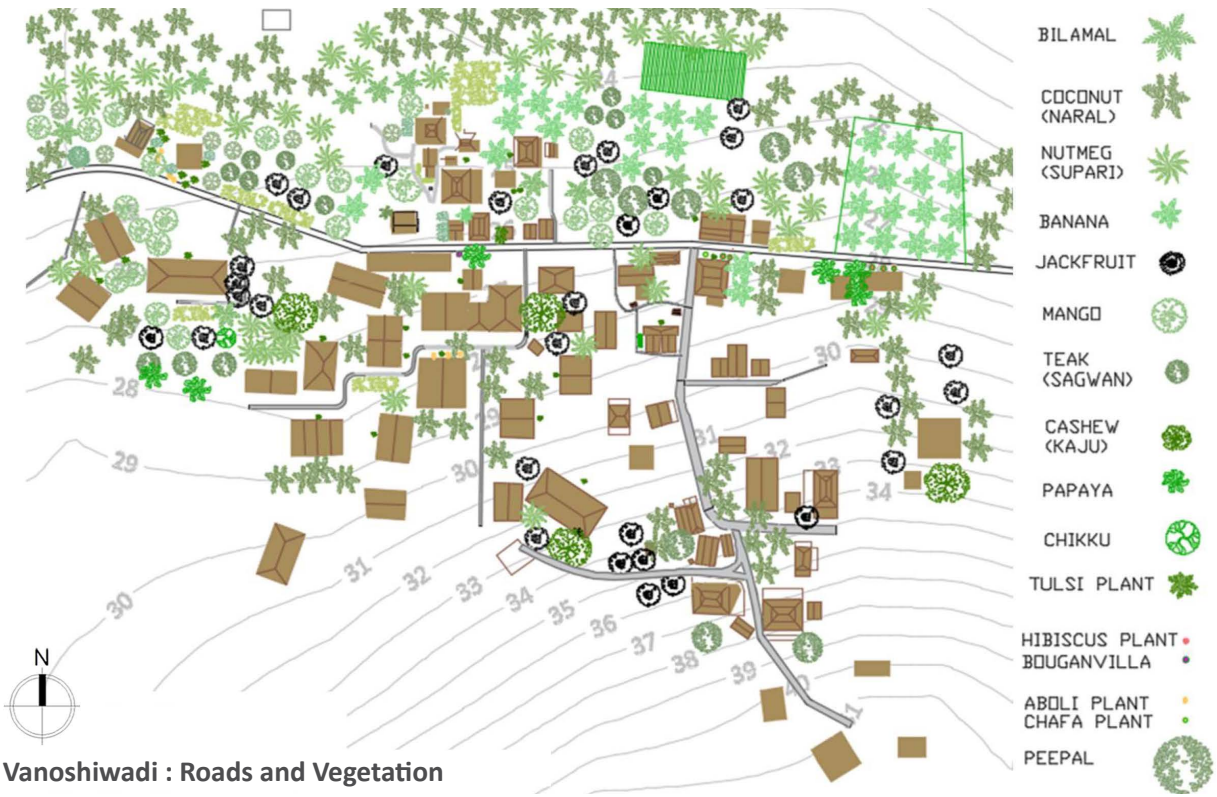
Height of Buildings



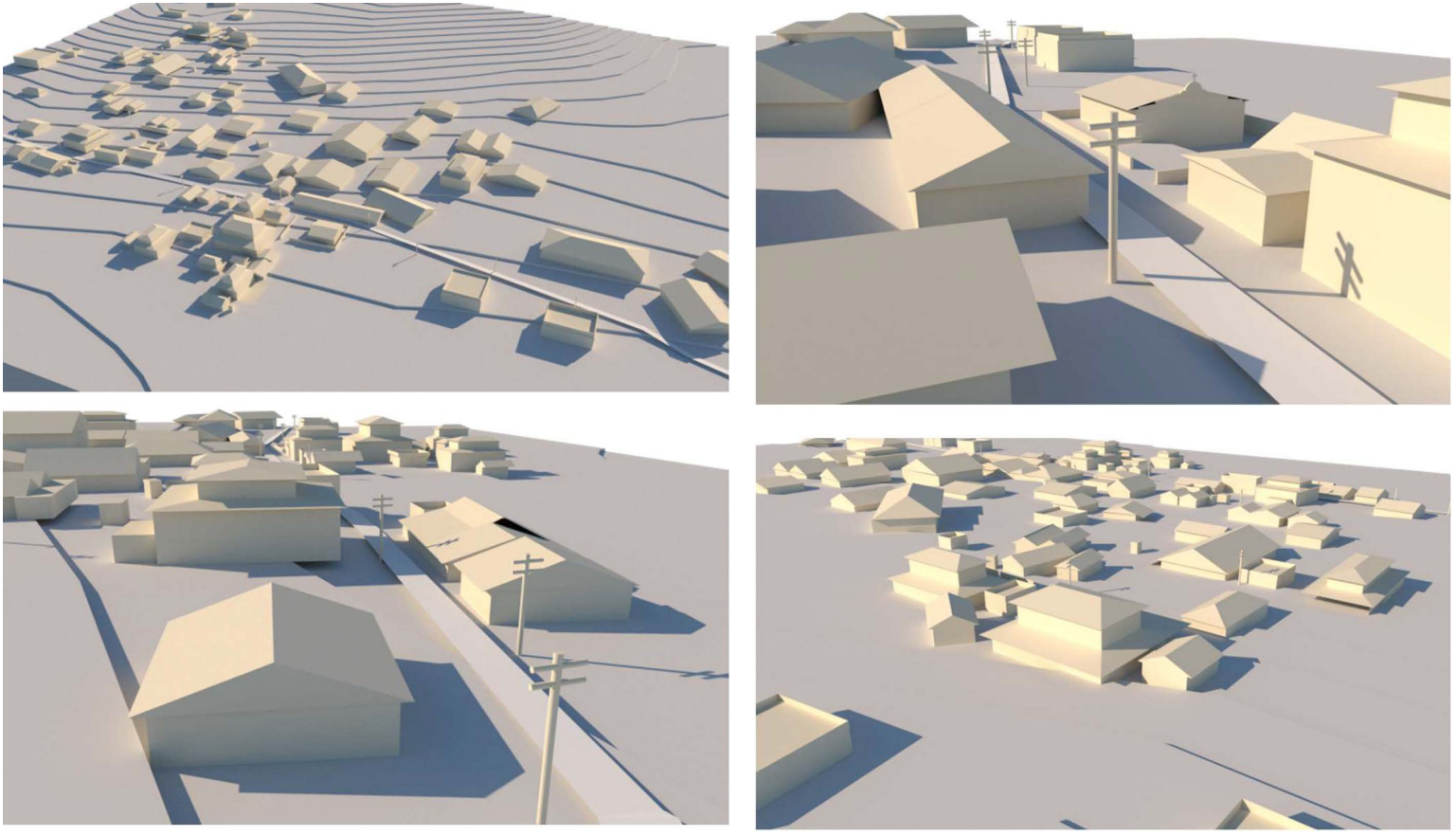
Age of Buildings



Vanoshiwadi : Location of Services



Vanoshiwadi : Roads and Vegetation

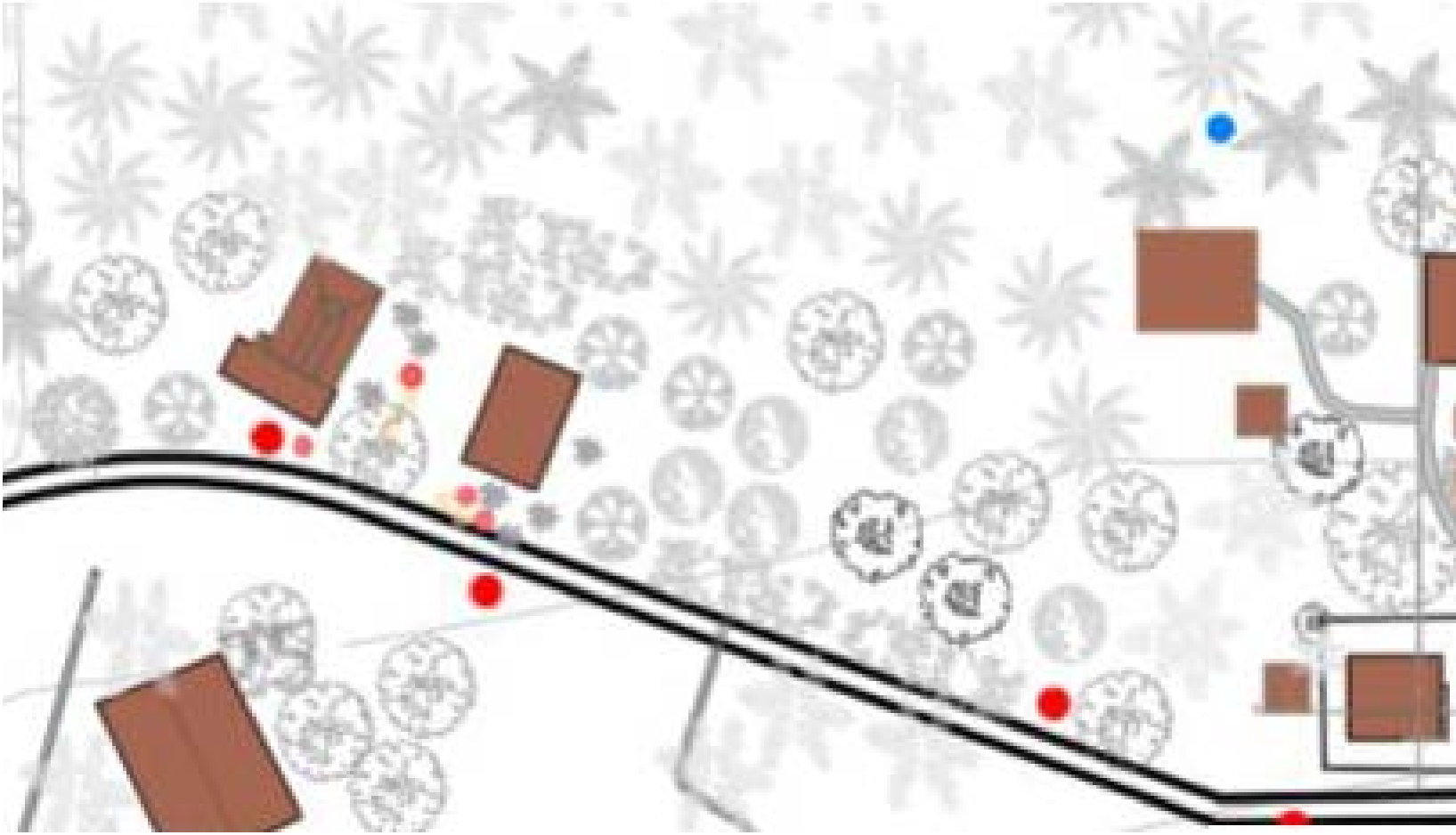


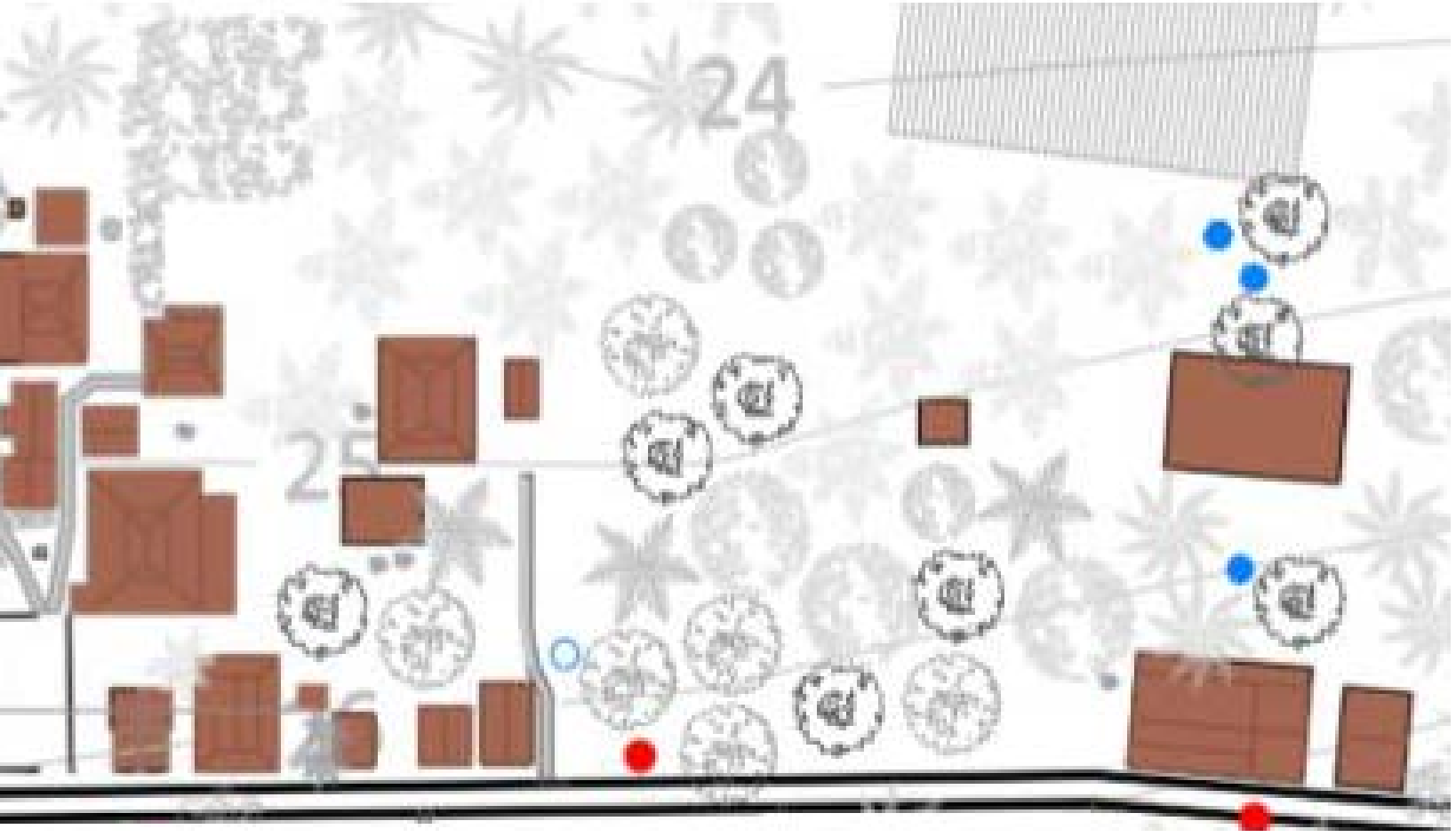
Views showing the built masses seen in vanosl





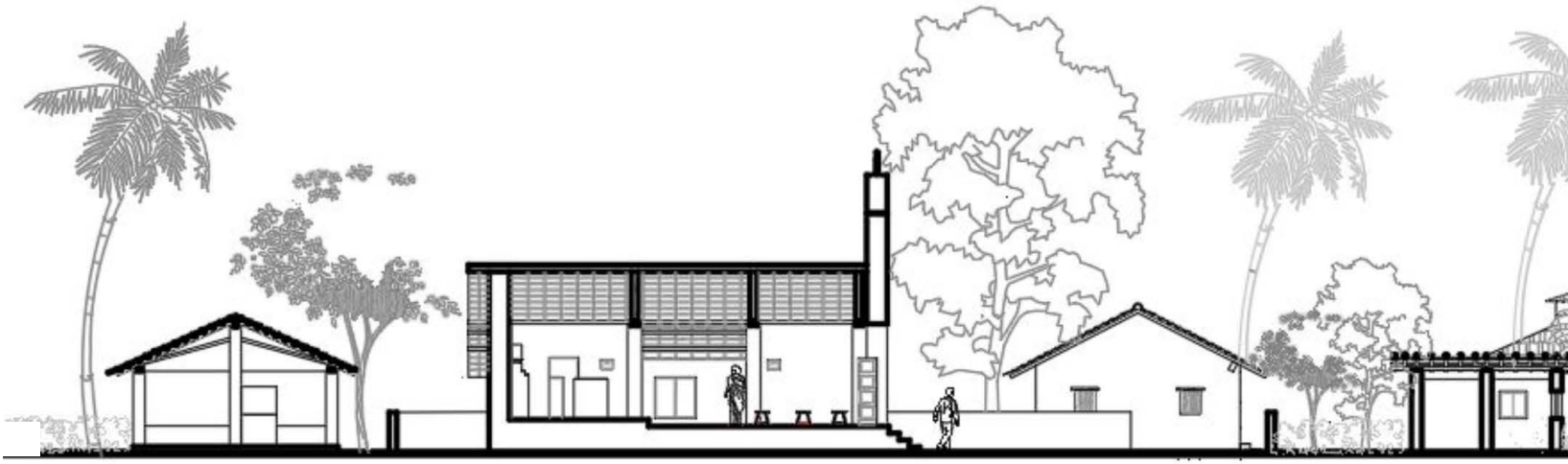
Vanoshiwadi Linear Cluster



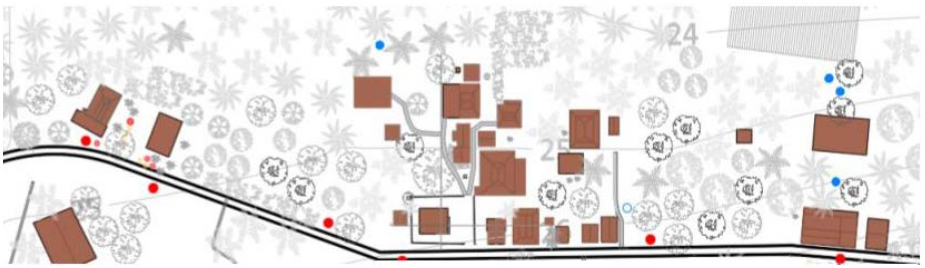

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25
N



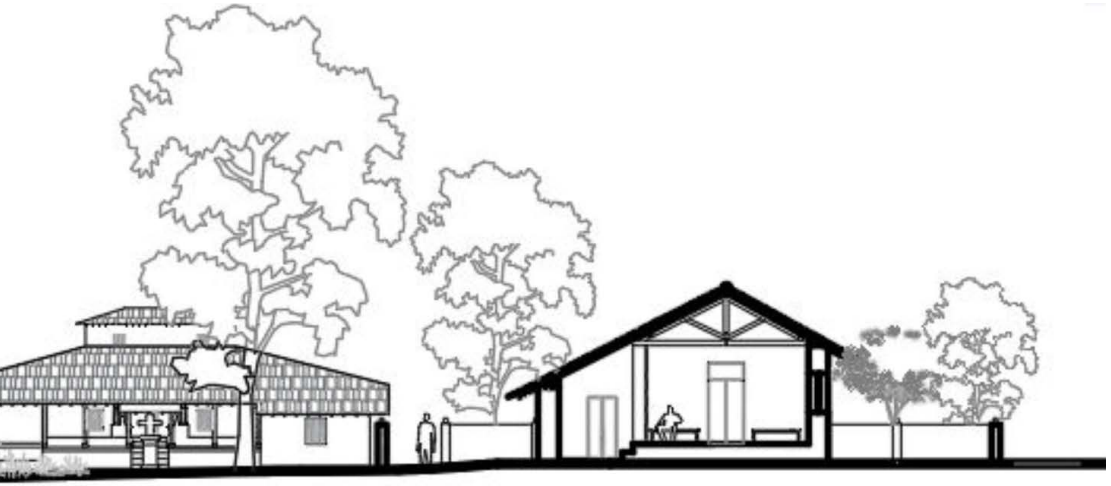
Vanoshiwadi Linear Cluster: Section AA

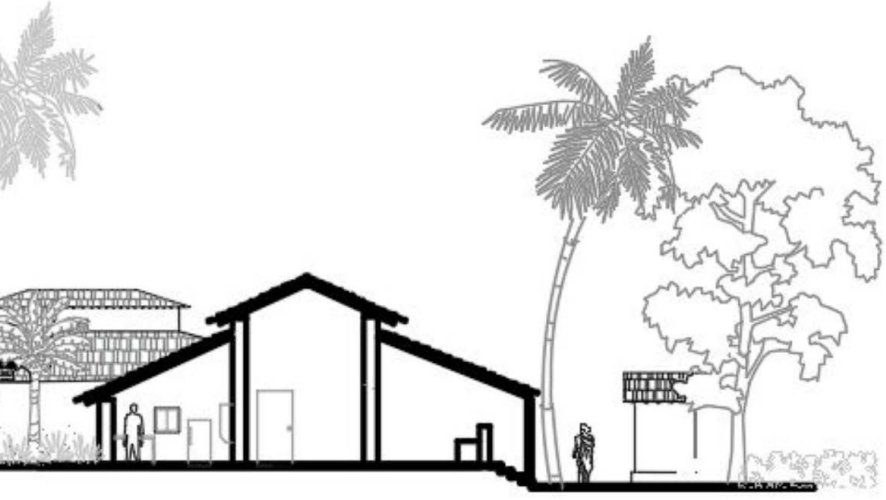


Vanoshiwadi Linear Cluster: Section BB



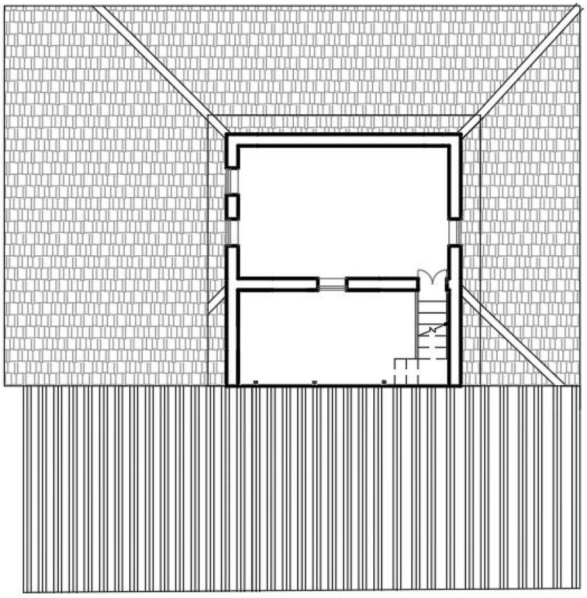
Key Plan



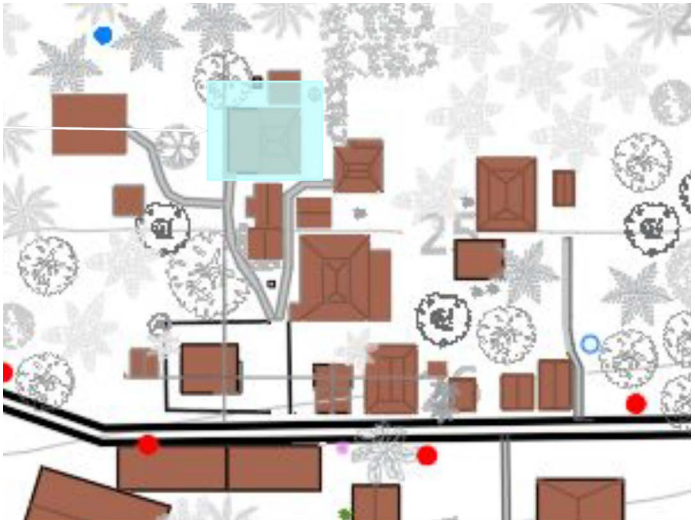


Mr. Rocky Lobo's House



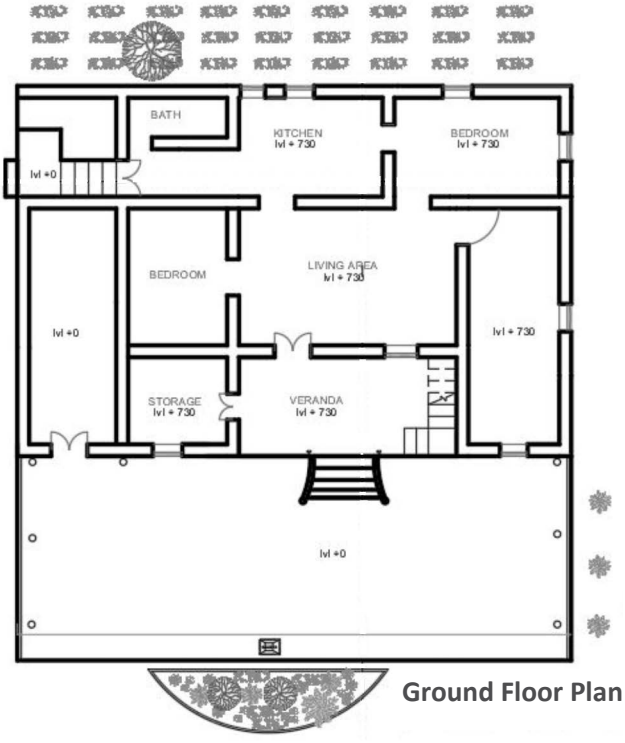


First Floor Plan



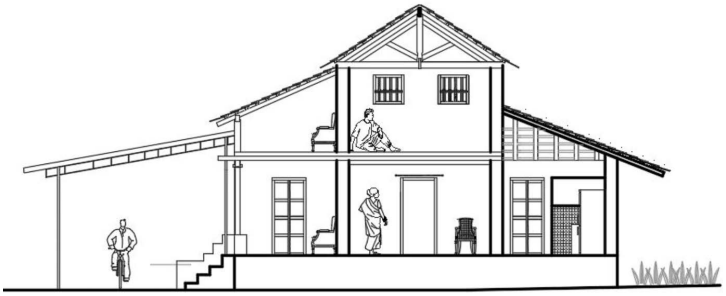
Documented House

Key Plan

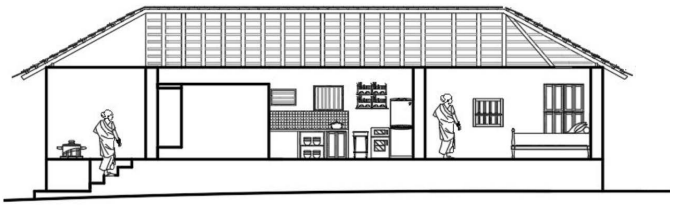


Ground Floor Plan

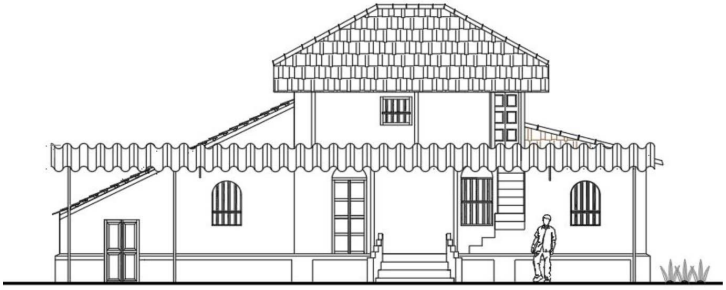




Section AA’



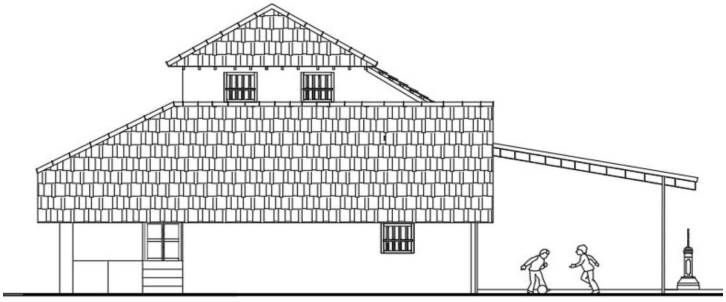
Section BB’



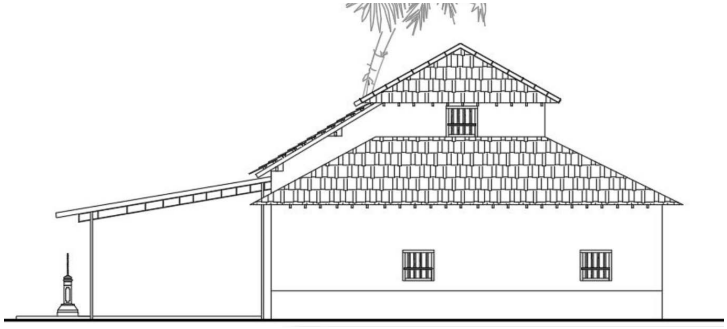
South Elevation



North Elevation



East Elevation



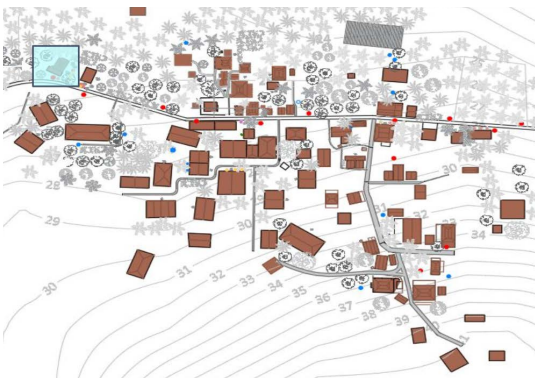
West Elevation

This G+1 structure, over a century old, is one of the earliest homes in the cluster. The cluster pattern and house orientation reflect a response to climate and a strong sense of community, where residents remain closely connected.

Mr. Halankar's House

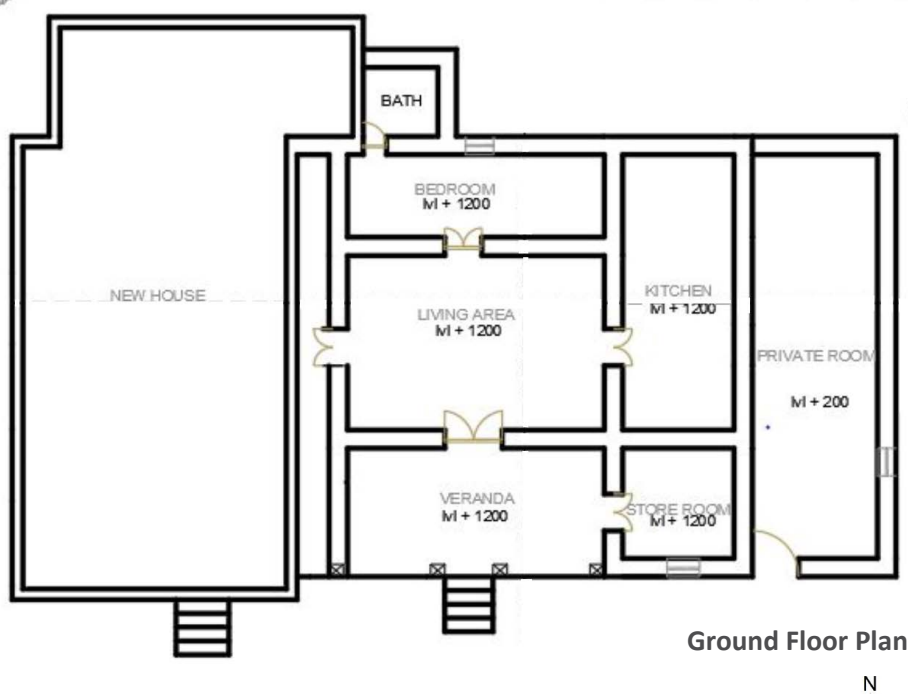




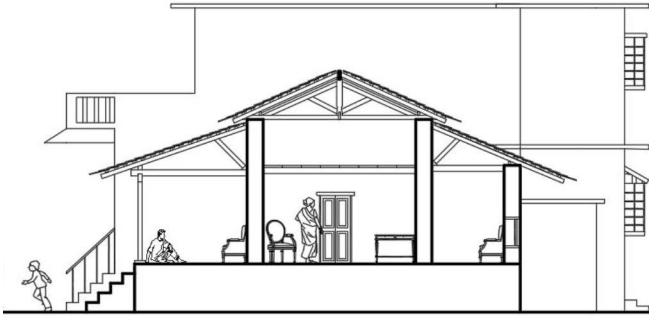


Documented House

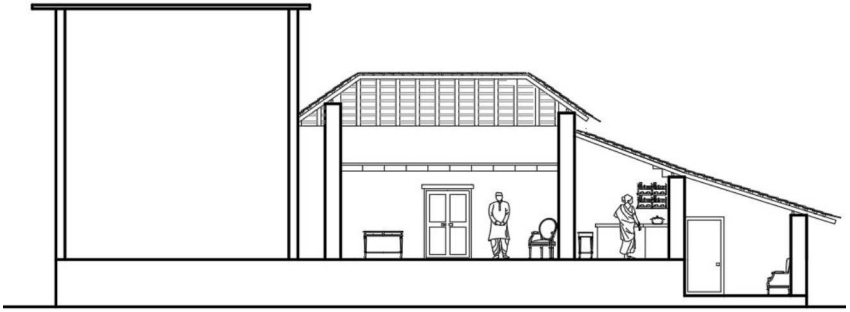
Key Plan



Ground Floor Plan

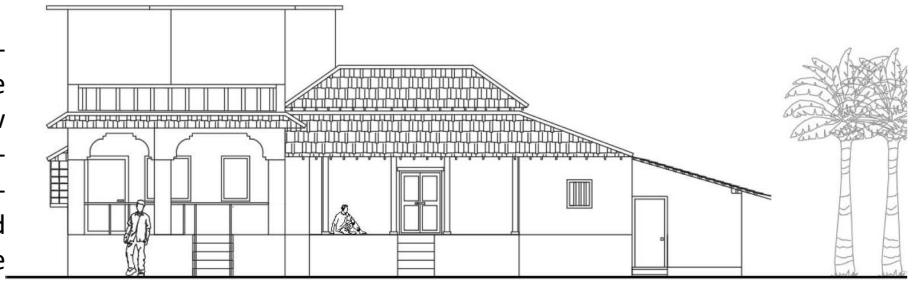


Section AA'

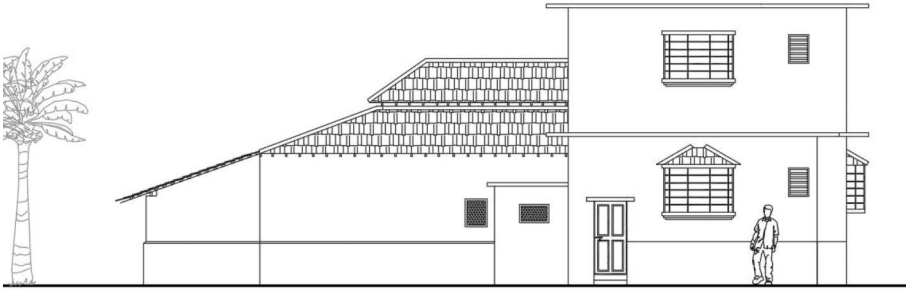


Section BB'

A unique blend of vernacular and RCC (Reinforced Cement Concrete) construction, with the vernacular part dating back over 100 years. New construction follows the form of local architecture and response to lifestyle. Still, the old laterite structure remains naturally cooler compared to the newer RCC addition. This stark difference is visible in the built form.



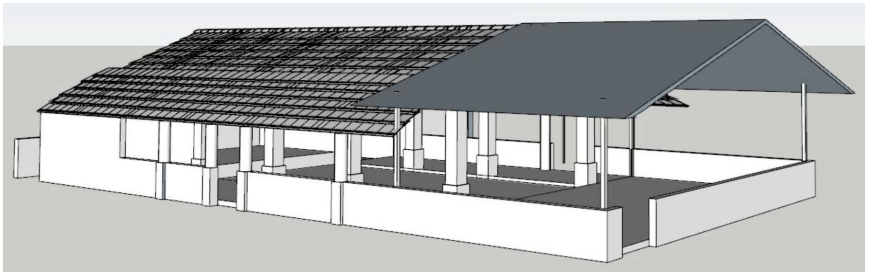
North Elevation

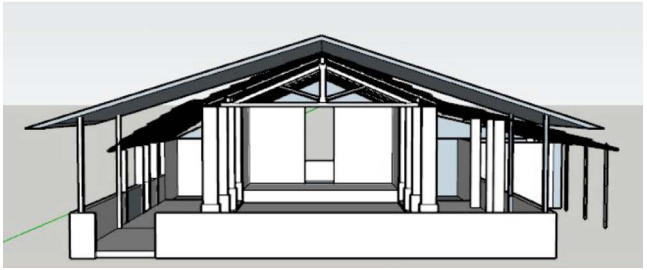


South Elevation

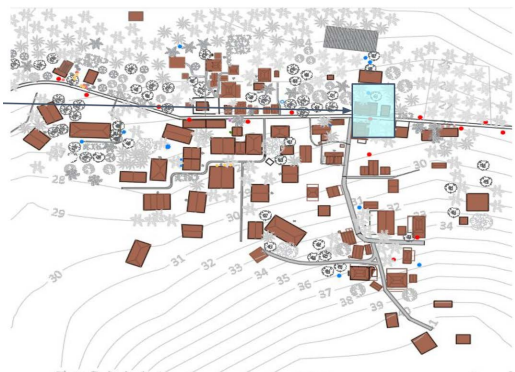


Sabhamandapa



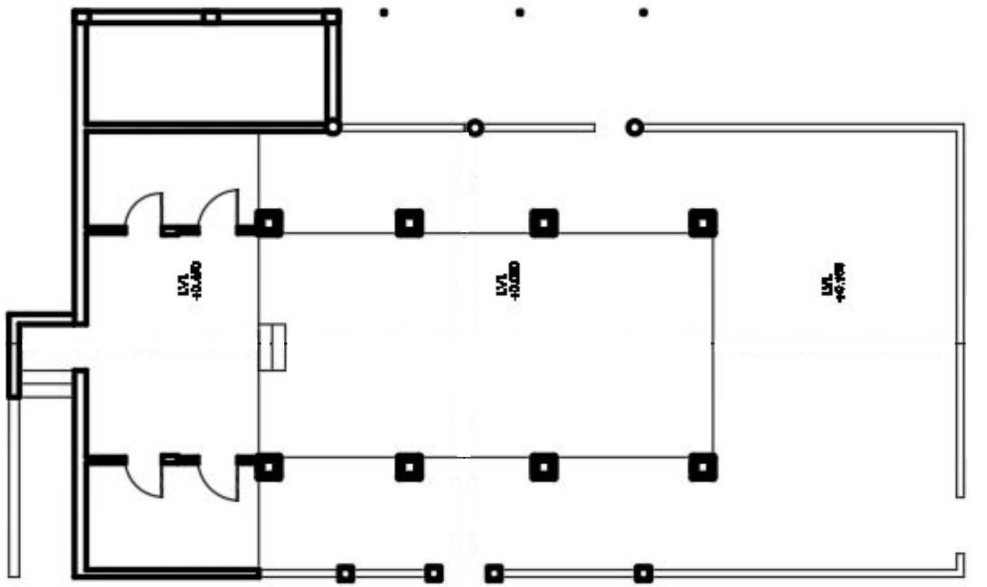






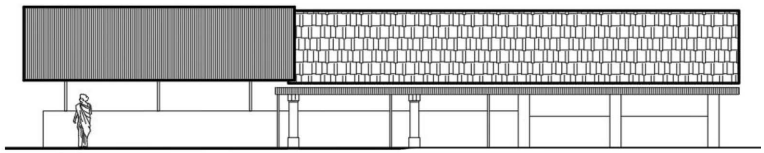
Documented House

Key Plan

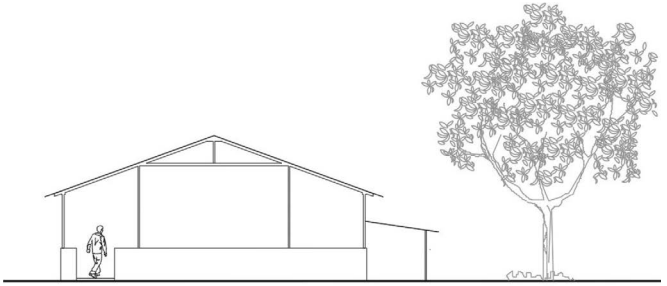


Ground Floor Plan

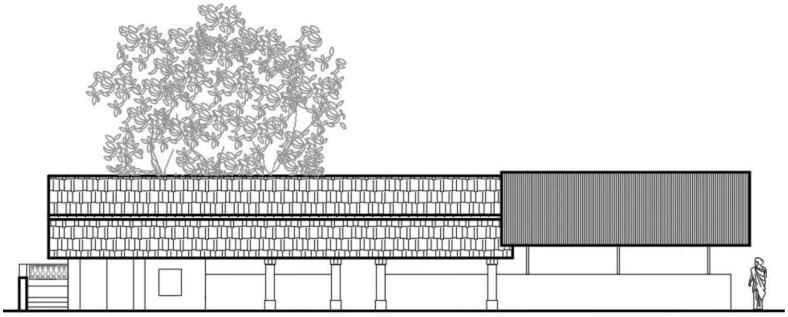




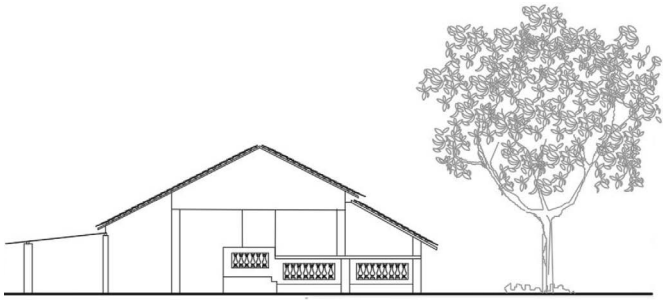
North Elevation



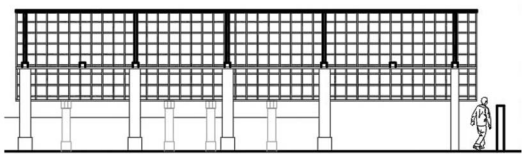
East Elevation



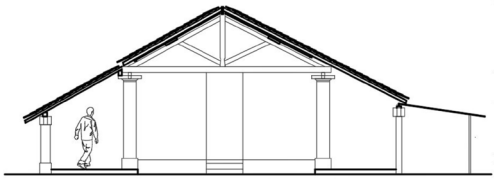
South Elevation



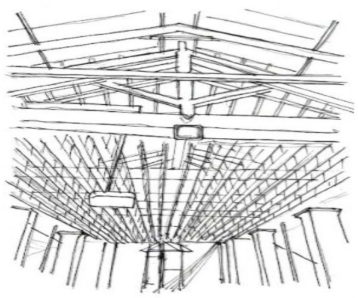
West Elevation



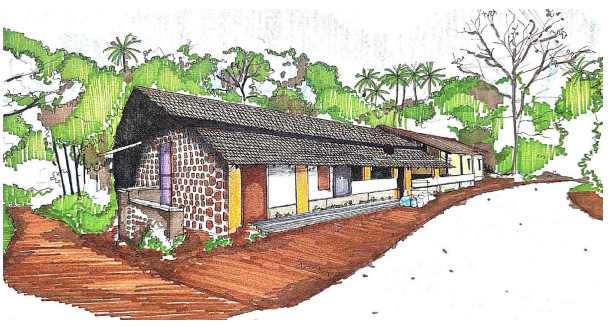
Section AA'



Section BB'

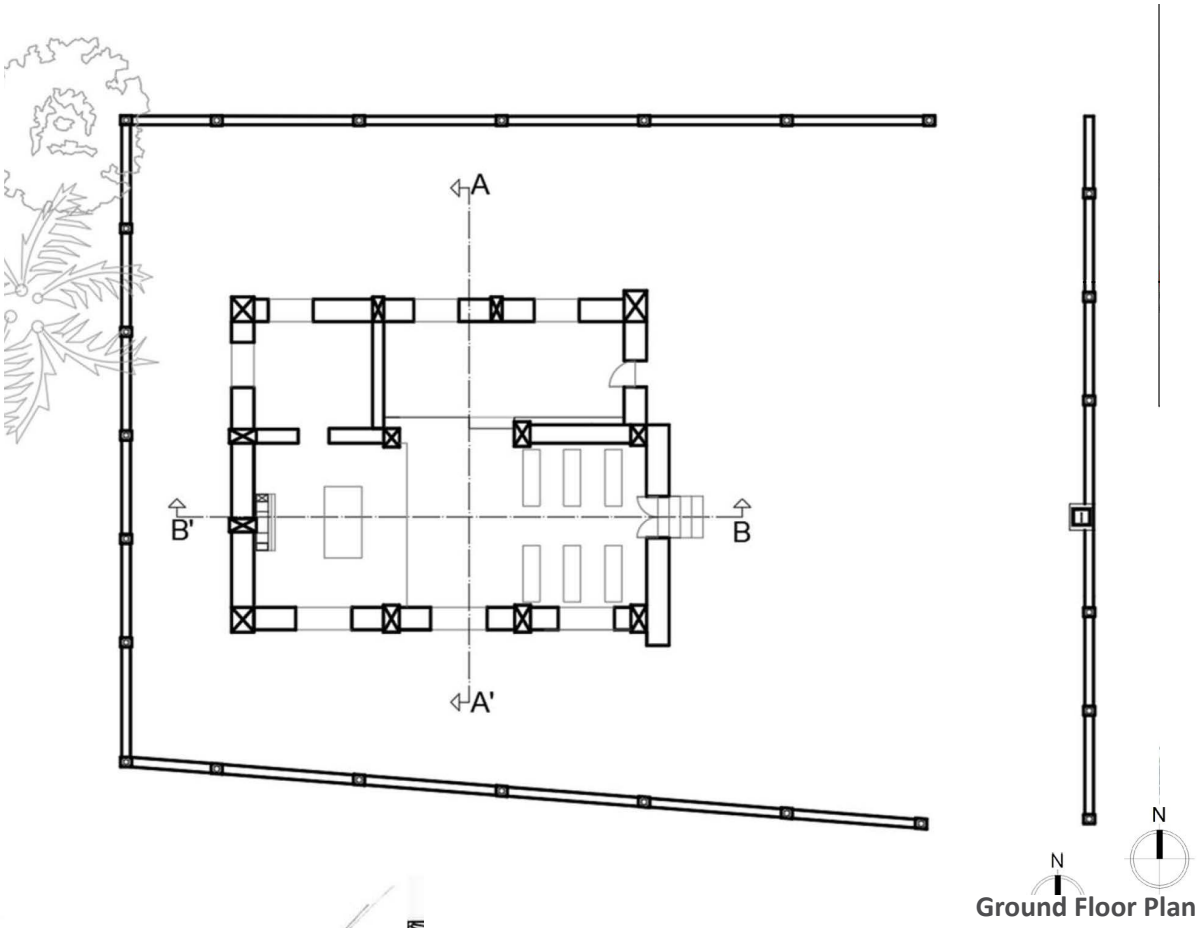






The Sabhamandapa or community hall serves as a gathering place for the community, where people come together to celebrate various festivals such as Ganesh Chaturthi, Jatra, Navratri, Gudi Padwa, and other local events.

Vanoshiwadi Church

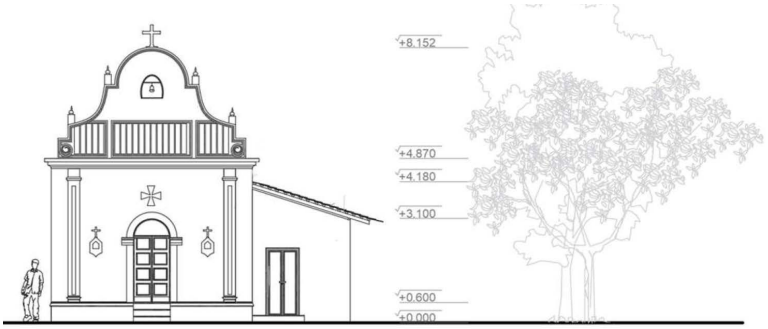


Ground Floor Plan

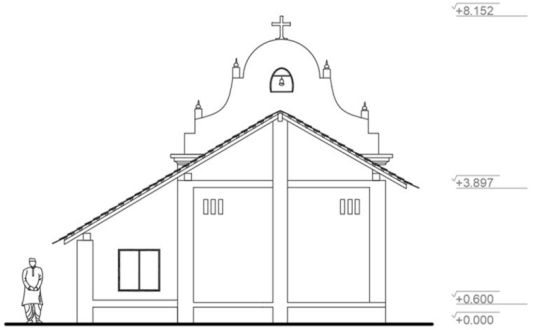


Sketched View

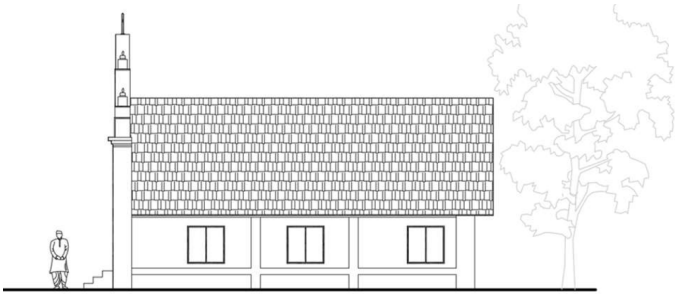
A quaint church in Vanoshi, situated within the Christian community cluster, showcases influences of the Neo-Baroque style. Architectural features such as semicircular arches, pilasters, cornices, and an ornate entrance gateway are evident in its design. The layout is straightforward, with a rectangular floor plan and a sloping roof, reflecting the traditional church form. Positioned at the border of Goa and Maharashtra, the church exhibits elements from both regions, seamlessly blending their architectural styles in the built form.



East Elevation



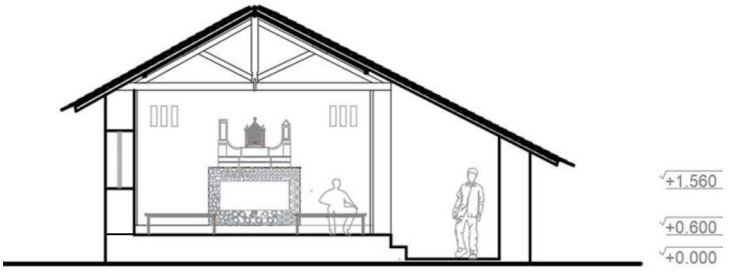
West Elevation



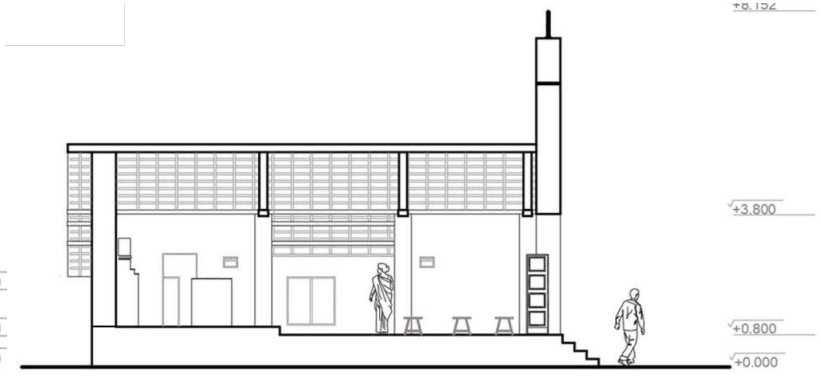
North Elevation



South Elevation

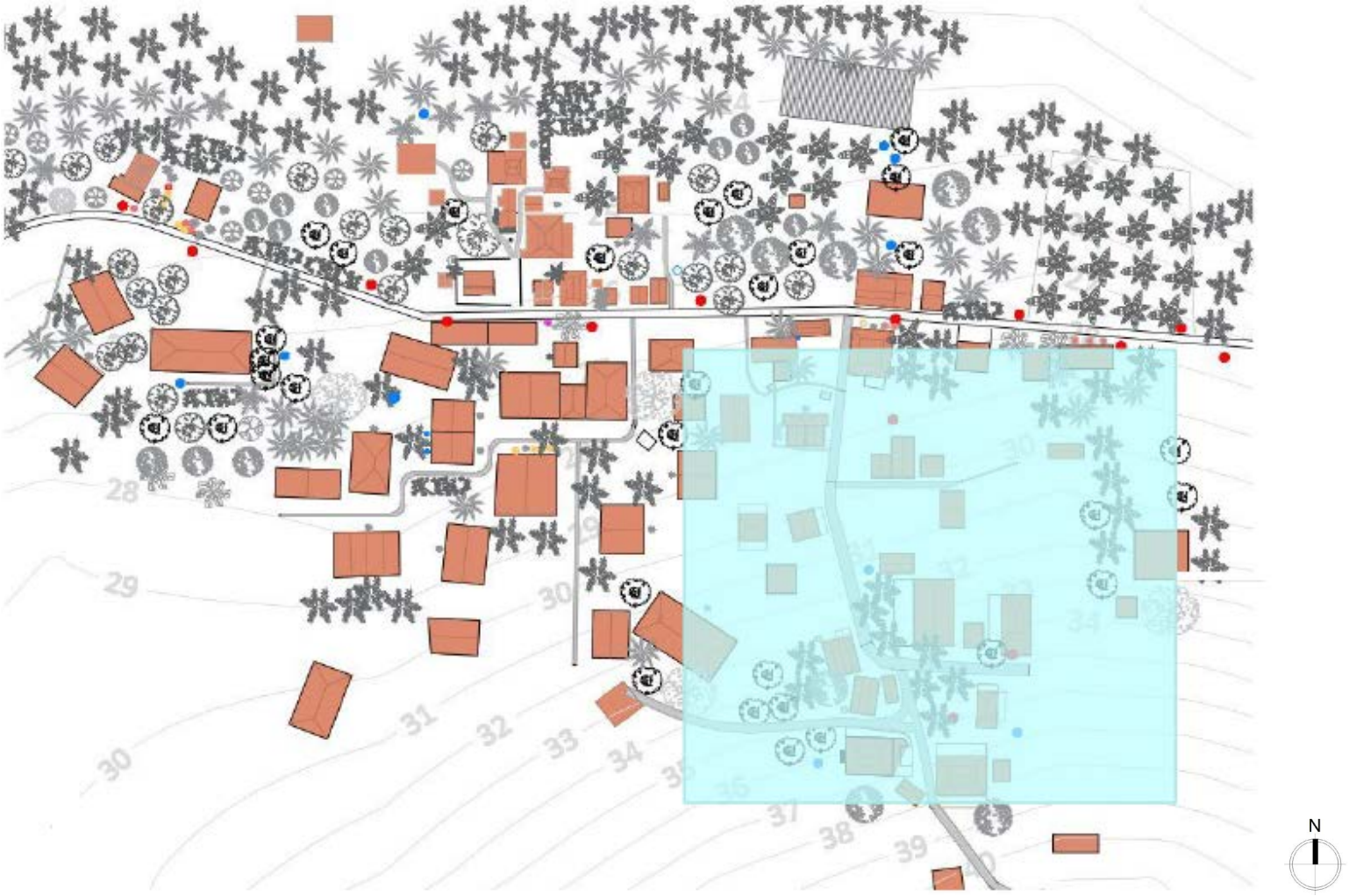


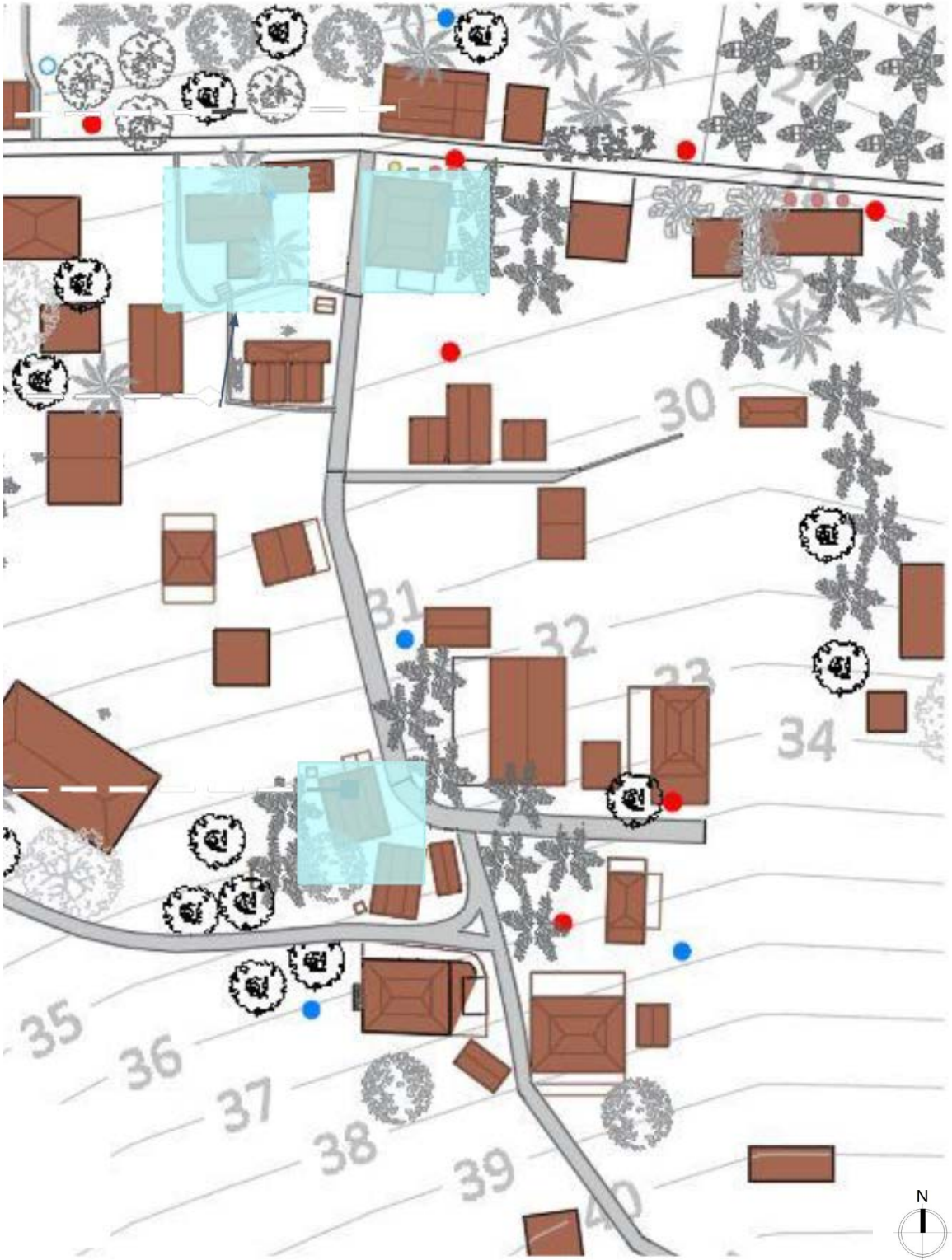
Section AA'

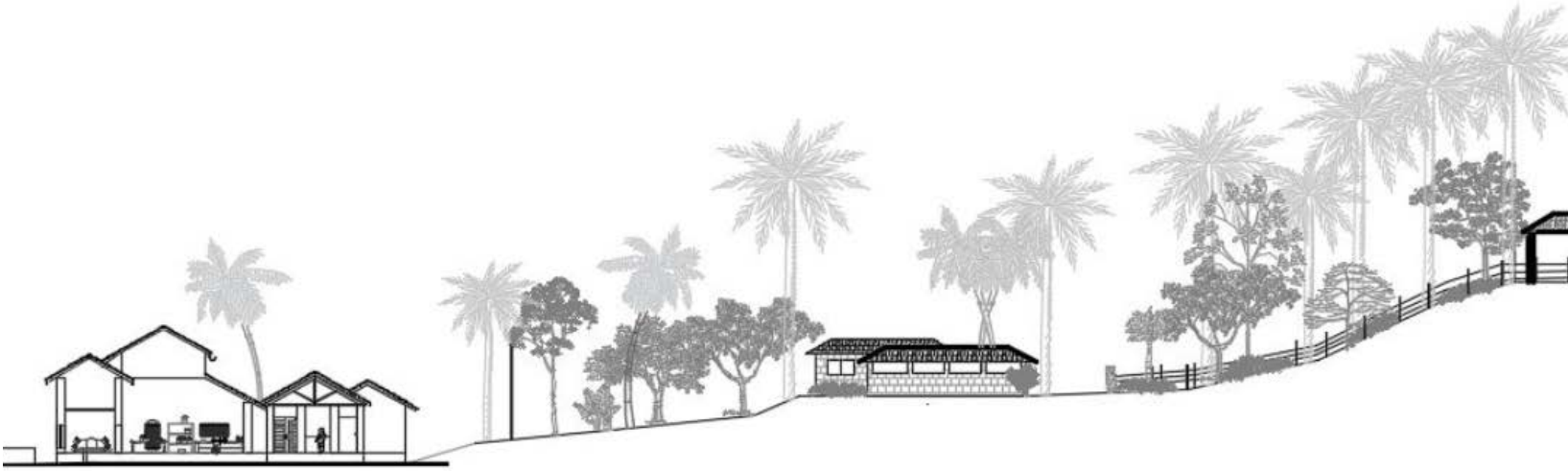


Section BB'

Vanoshiwadi Upper Cluster



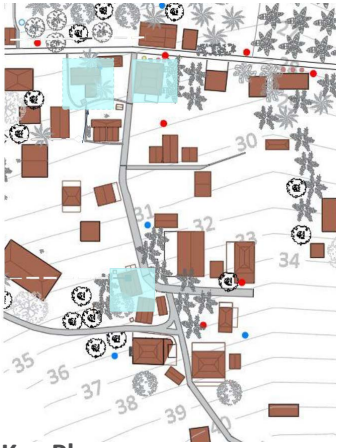

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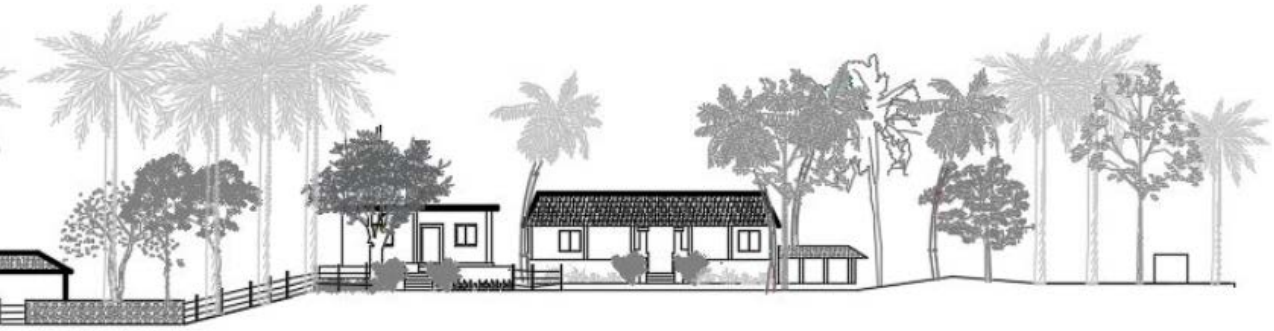
Vanoshiwadi Upper Cluster: Sectional Elevation AA'



Vanoshiwadi Upper Cluster: Sectional Elevation BB'



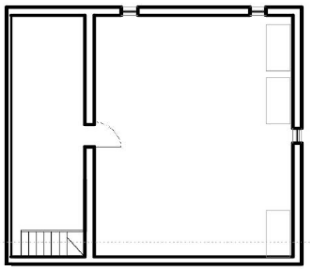
Key Plan





Mr. Desai's House



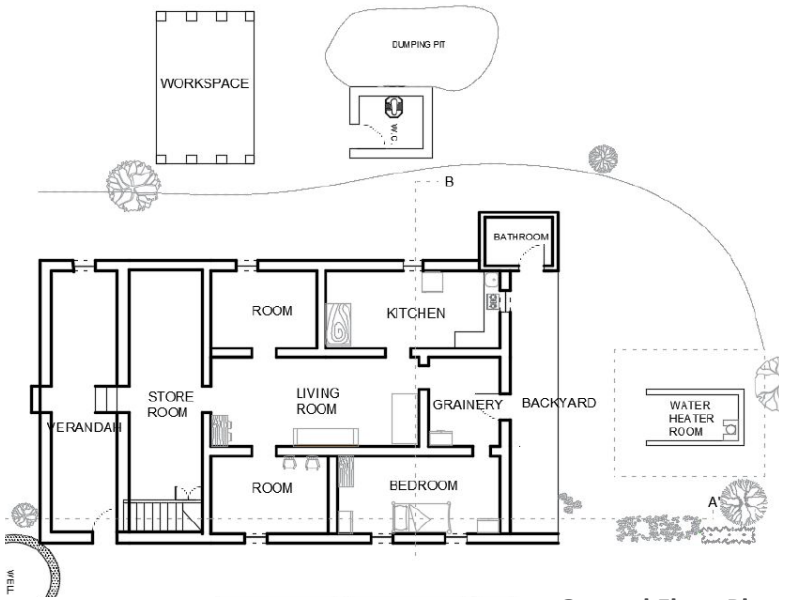


First Floor Plan



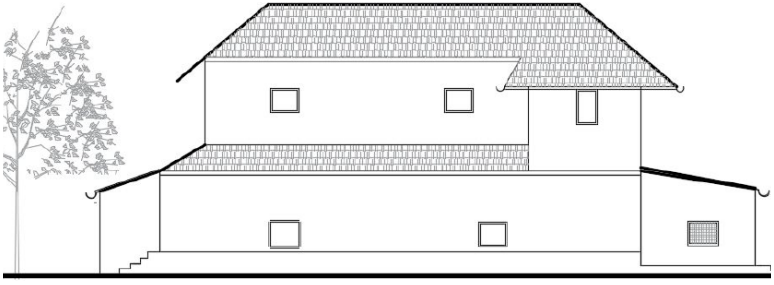
Documented House

Key Plan

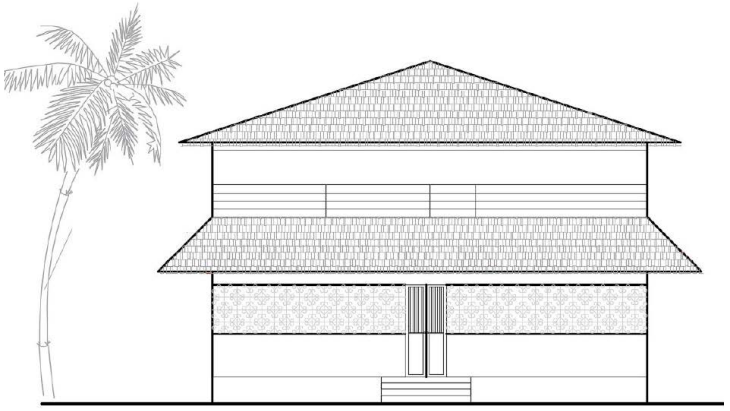


Ground Floor Plan

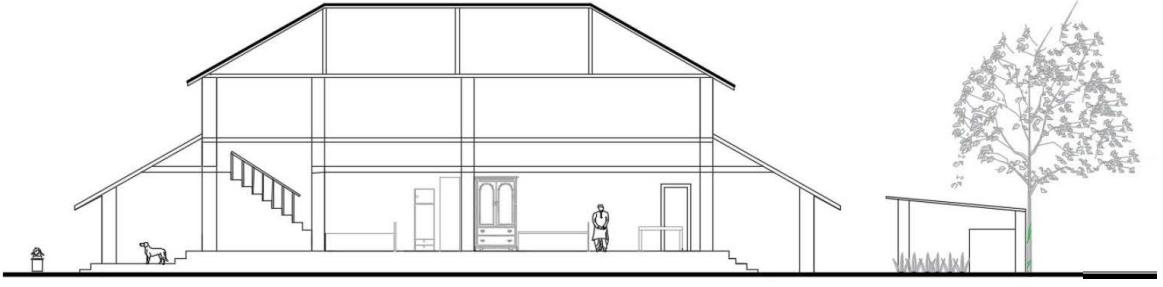




East Elevation



West Elevation



Section AA'

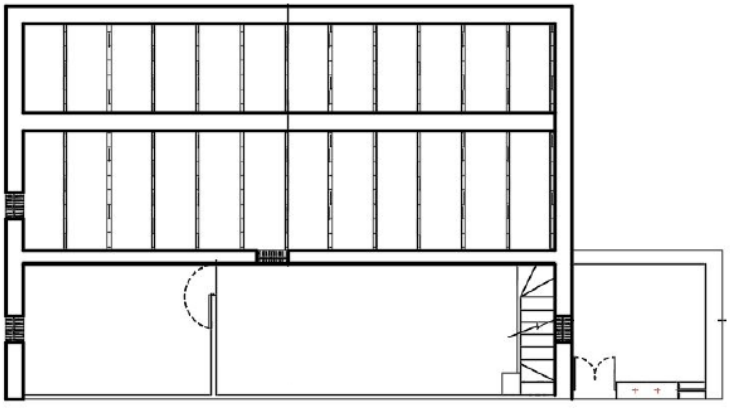


Section BB'

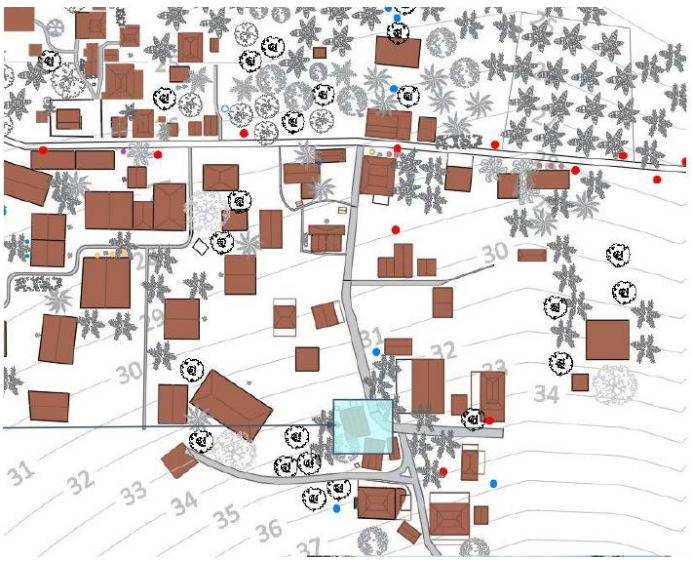
Built around 100 years ago, this house belongs to a farmer and landlord. The family consists of two members, and they also have a dog. They are traditional Konkani people.

Mr. Ghade's House



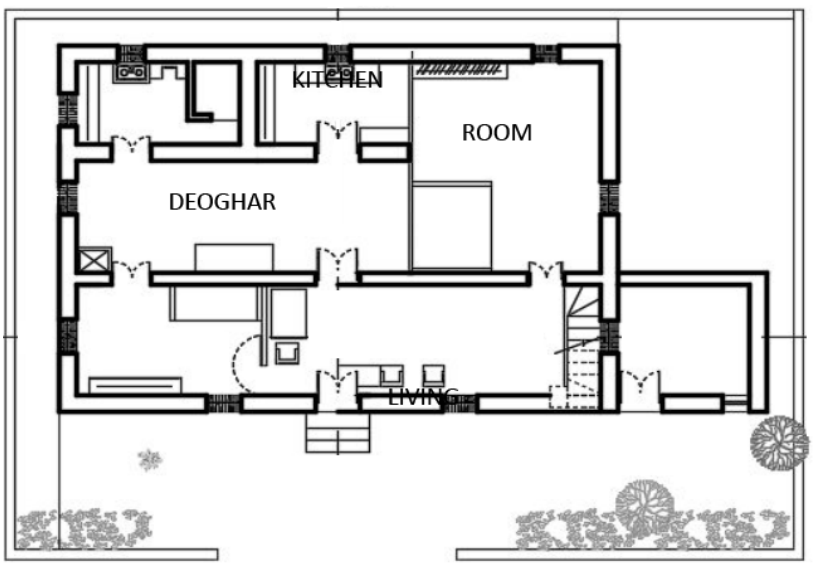


First Floor Plan



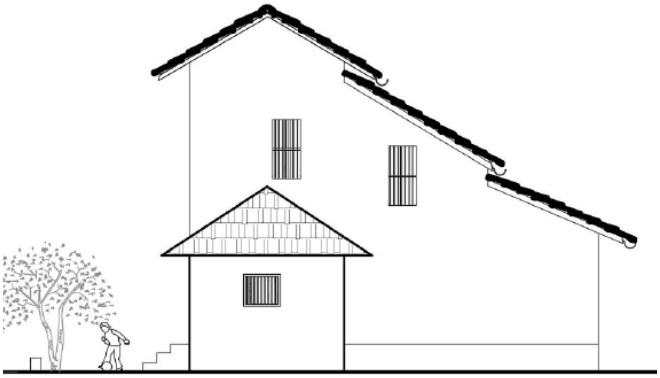
Documented House

Key Plan

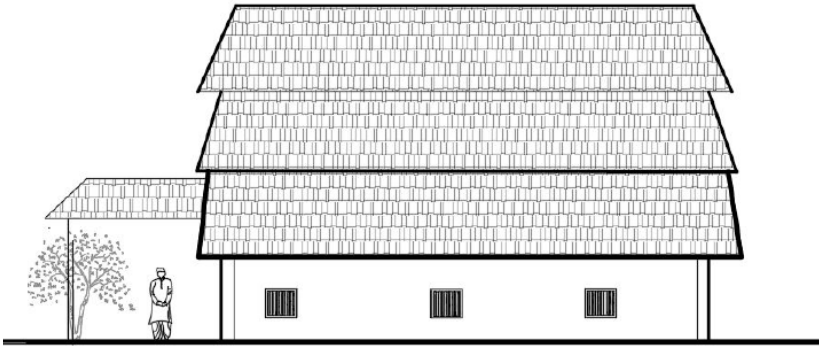


Ground Floor Plan





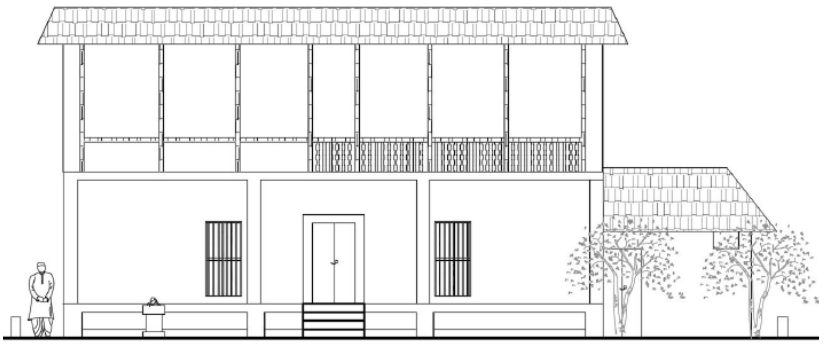
West Elevation



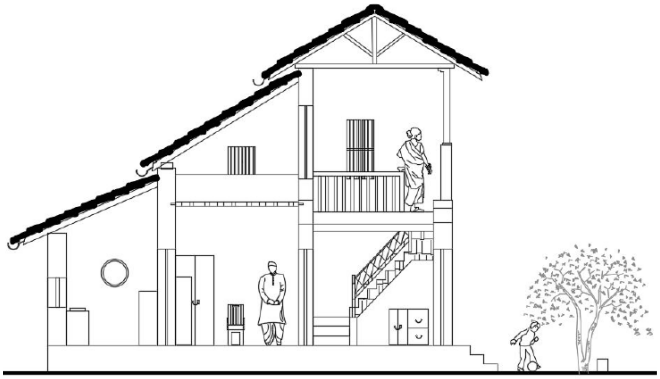
North Elevation



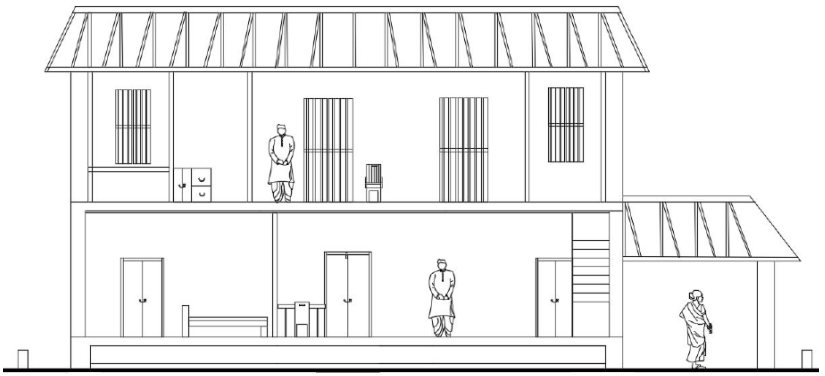
East Elevation



South Elevation



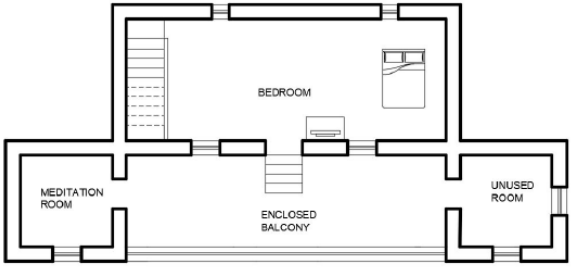
Section AA'



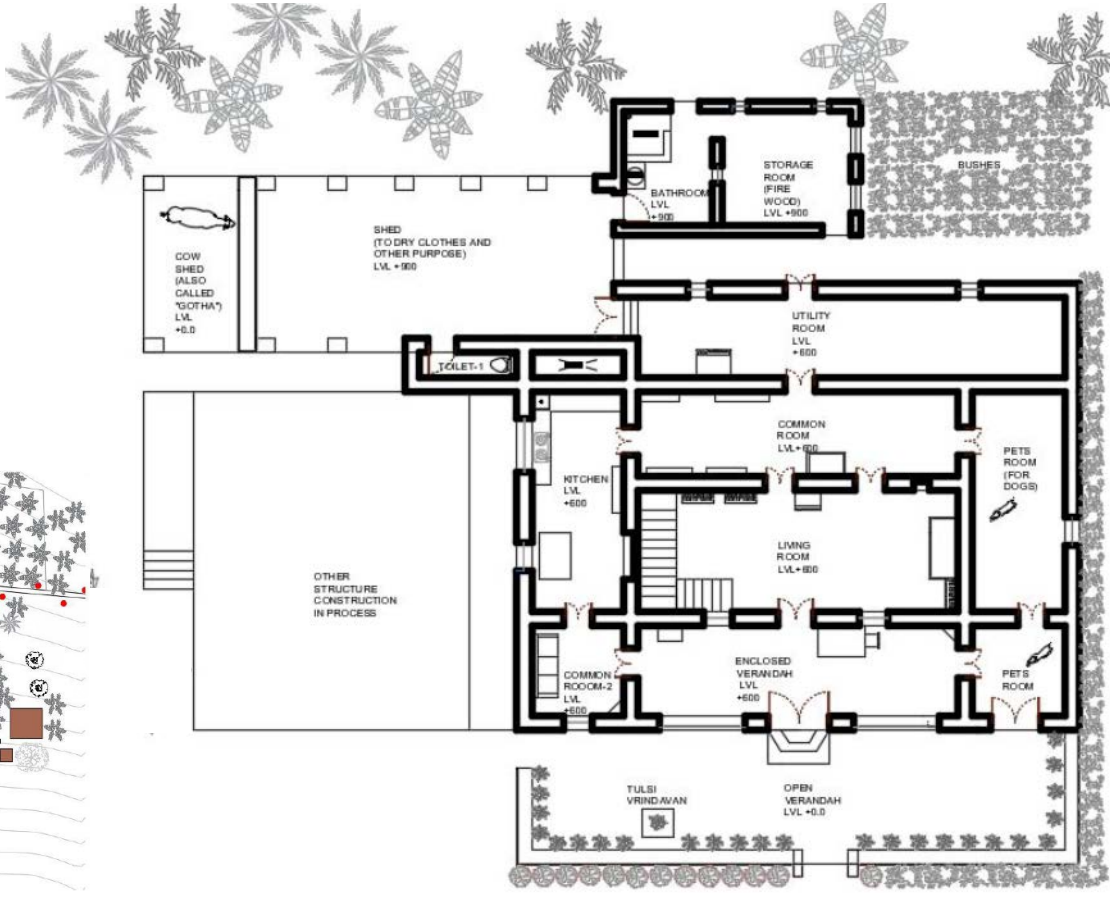
Section BB'

Constructed approximately 50 years ago, this house belongs to a carpenter. The family consists of two members, and they maintain their own cattle. They are also proper Konkani people.

Mr. Shetty's House



First Floor Plan



Ground Floor Plan



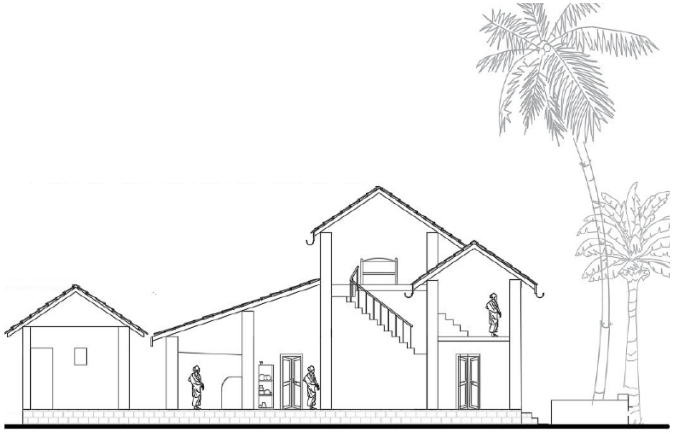
Documented House

Key Plan





Section AA’



Section BB’



North Elevation



South Elevation



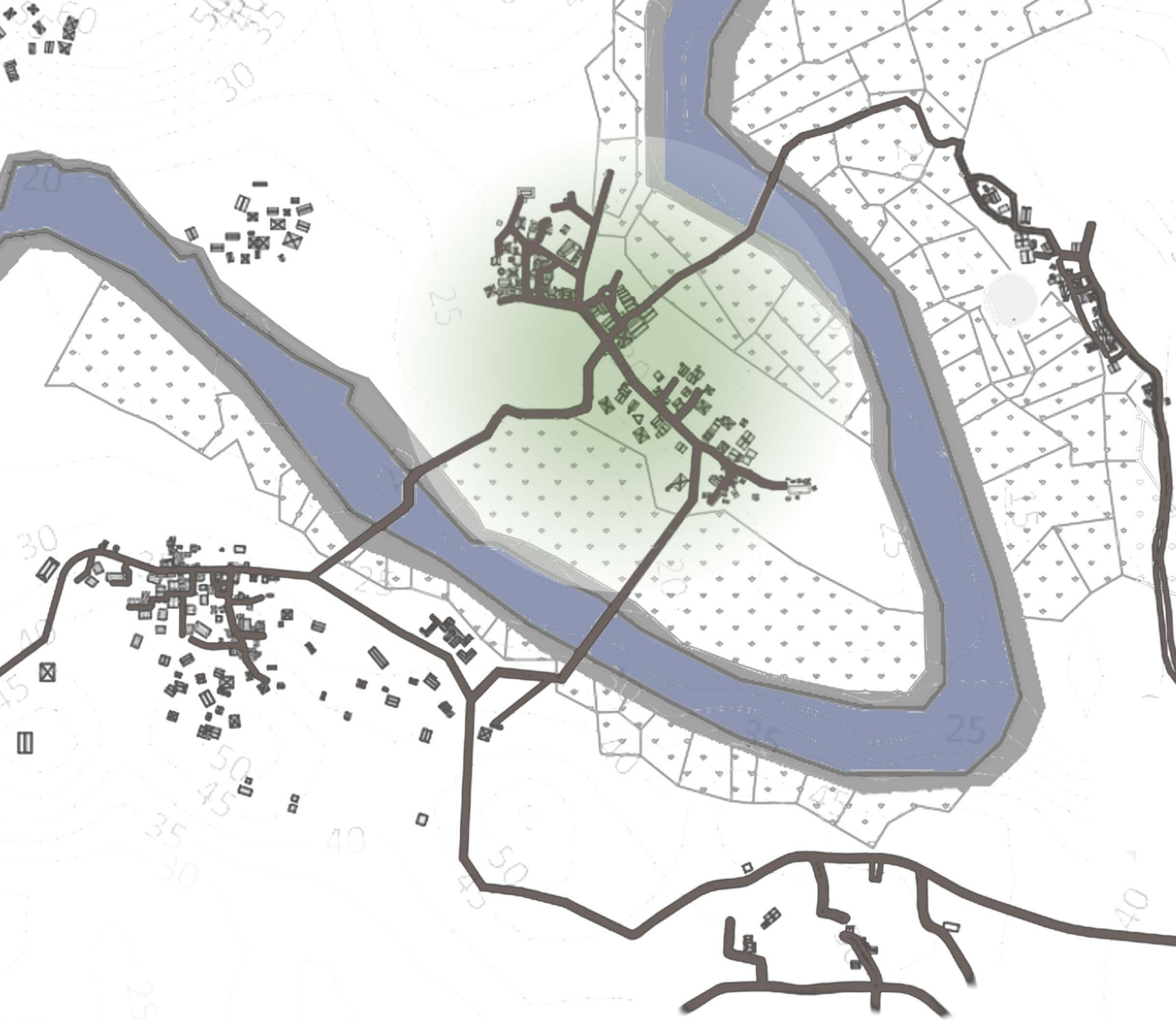
West Elevation



East Elevation

This house, also around 50 years old, belongs to a carpenter. The family has two members and raises their own cattle. They are traditional Konkani people.

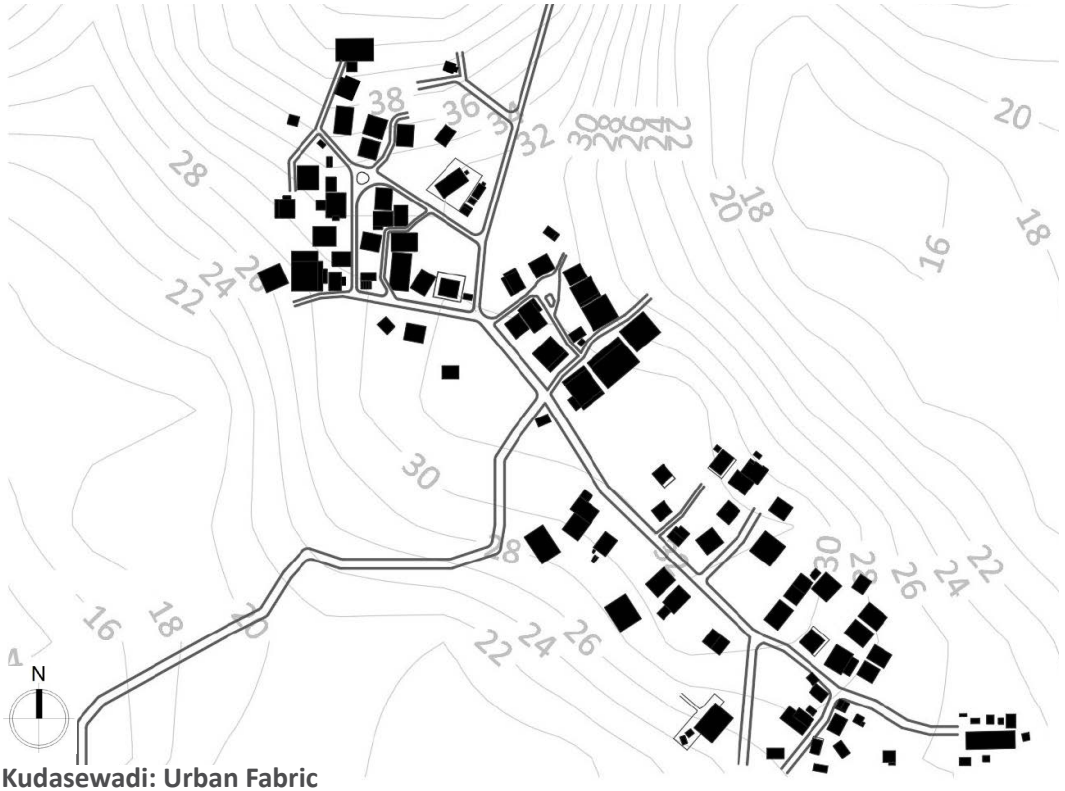
Kudasewadi







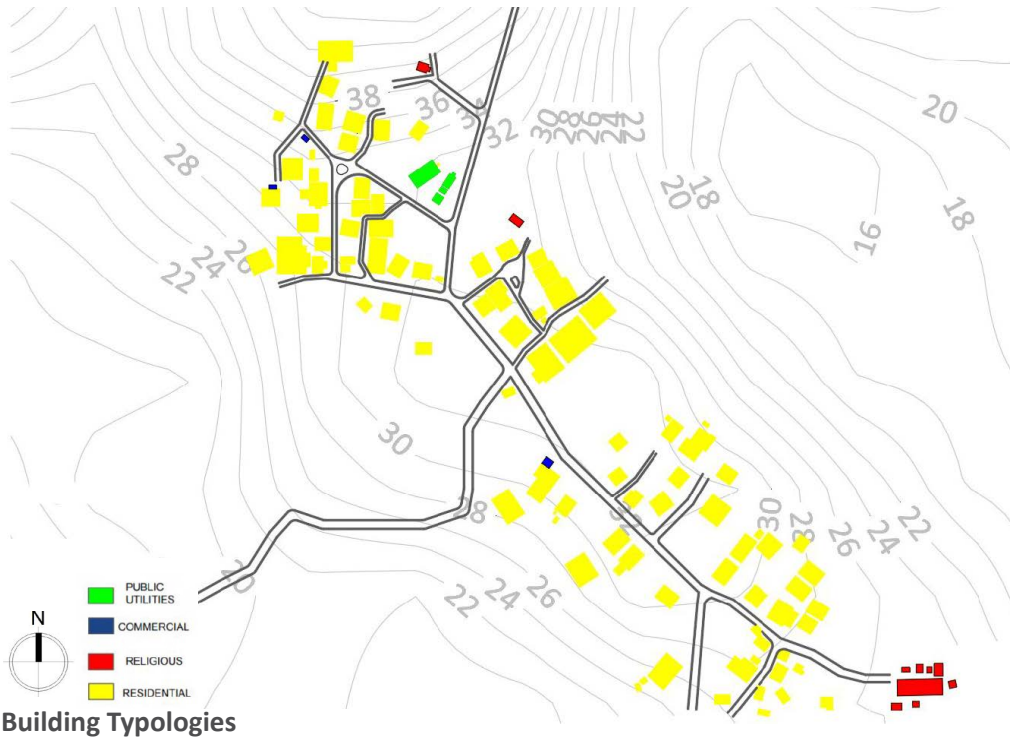
SECTION Elevation AA



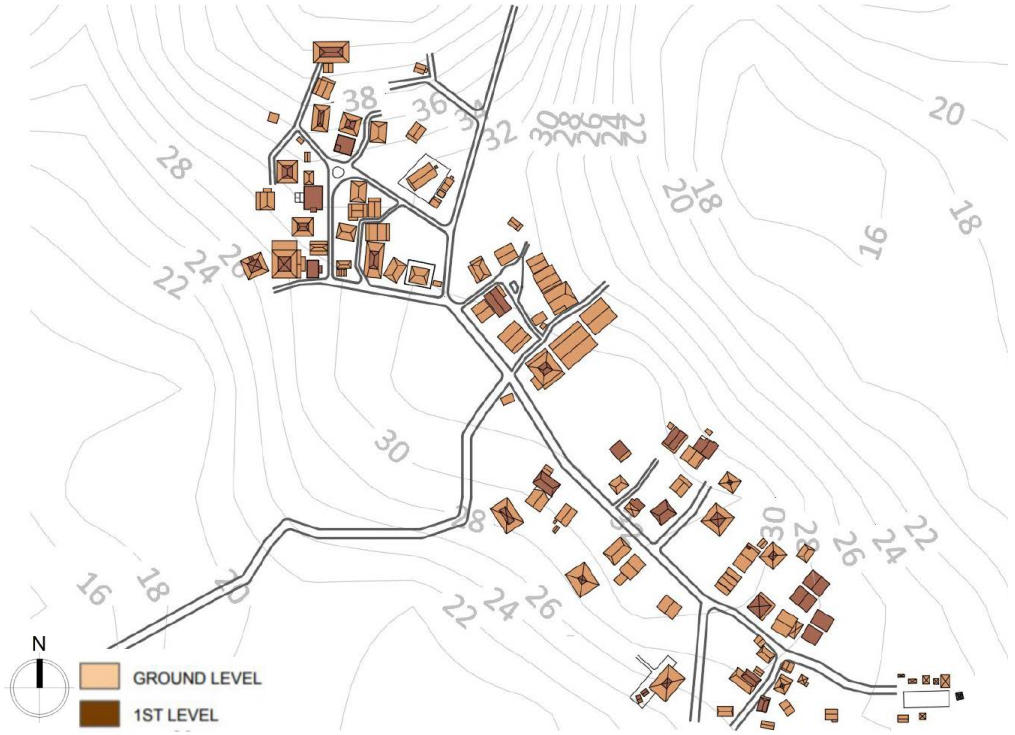
Kudasewadi: Urban Fabric



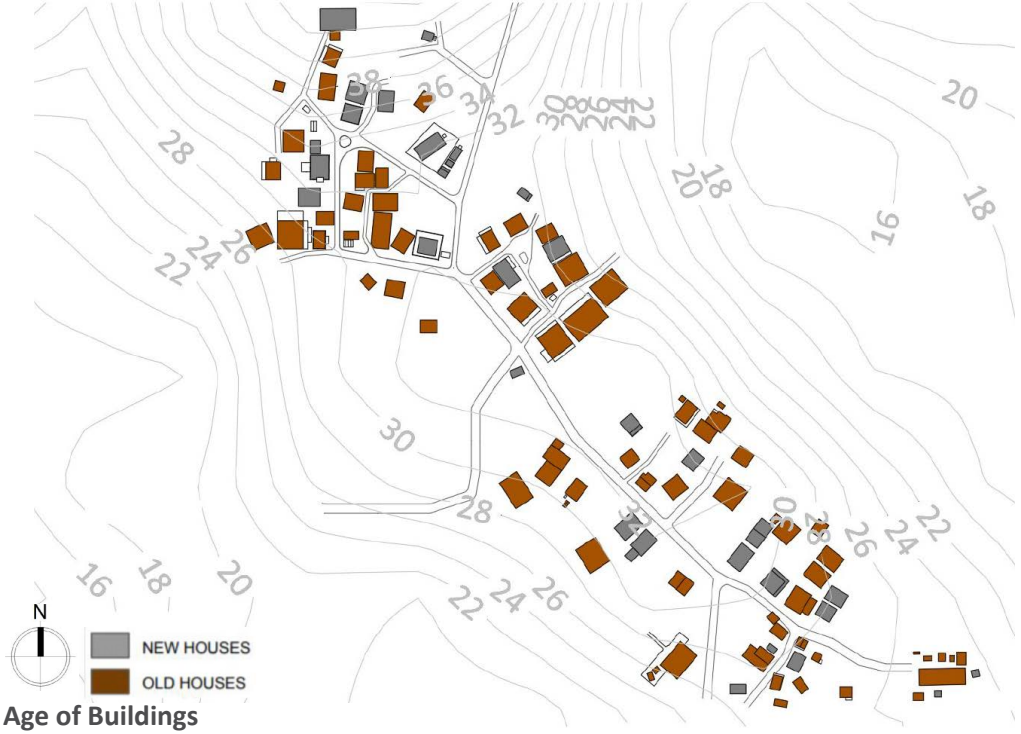
Plan of Kudasewadi



Building Typologies



Height of Buildings

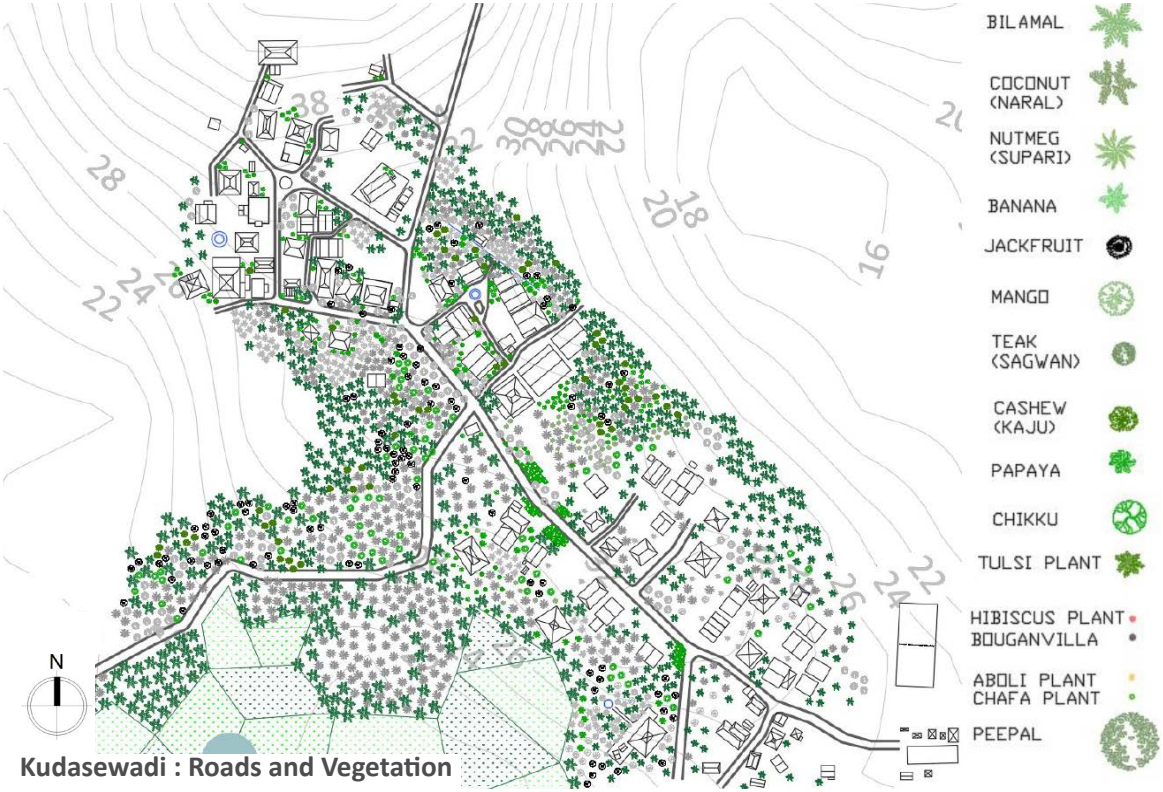


Age of Buildings

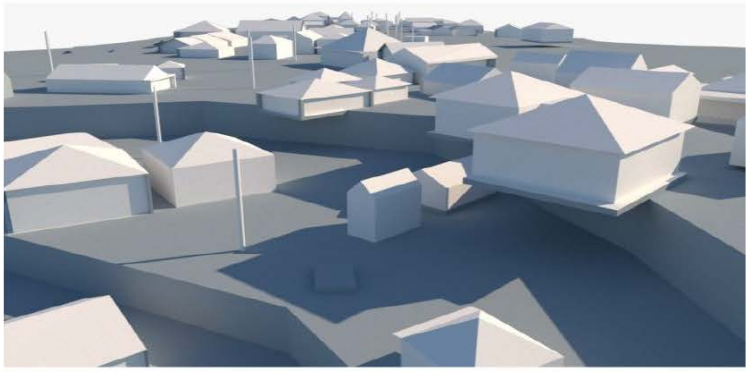
senectus et netus et malesuada fames ac turpis egestas sed tempus urna et pharetra pharetra massa massa ultricies mi quis hendrerit dolor magna eget est lorem ipsum dolor sit amet consectetur adipiscing elit pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas integer eget aliquet nibh praesent tristique magna sit amet purus gravida quis blandit turpis cursus in hac habitasse platea dictumst quisque sagittis purus sit amet volutpat consequat mauris nunc congue nisi vitae suscipit tellus mauris a diam maecenas sed enim ut sem viverra aliquet eget sit amet tellus cras adipiscing enim eu turpis egestas pretium aenean pharetra magna ac placerat vestibulum lectus mauris ultrices eros in cursus turpis massa tincidunt dui ut ornare lectus sit amet est placerat in egestas erat imperdiet sed euismod nisi

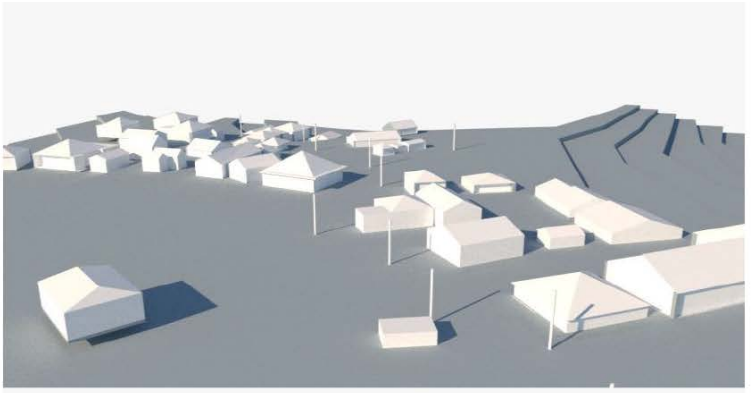


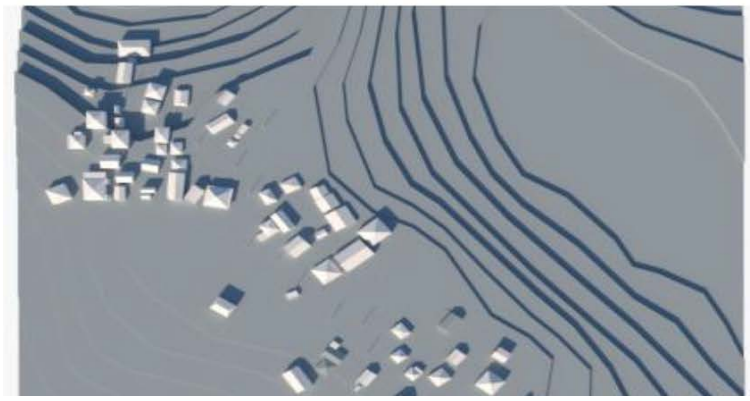
Kudasewadi : Location of Services

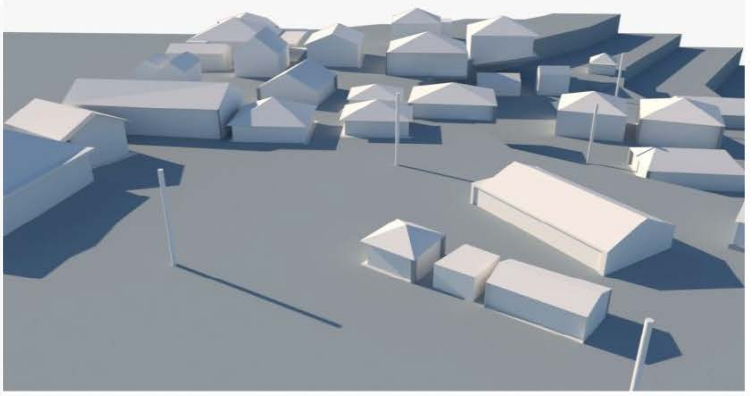


Kudasewadi : Roads and Vegetation





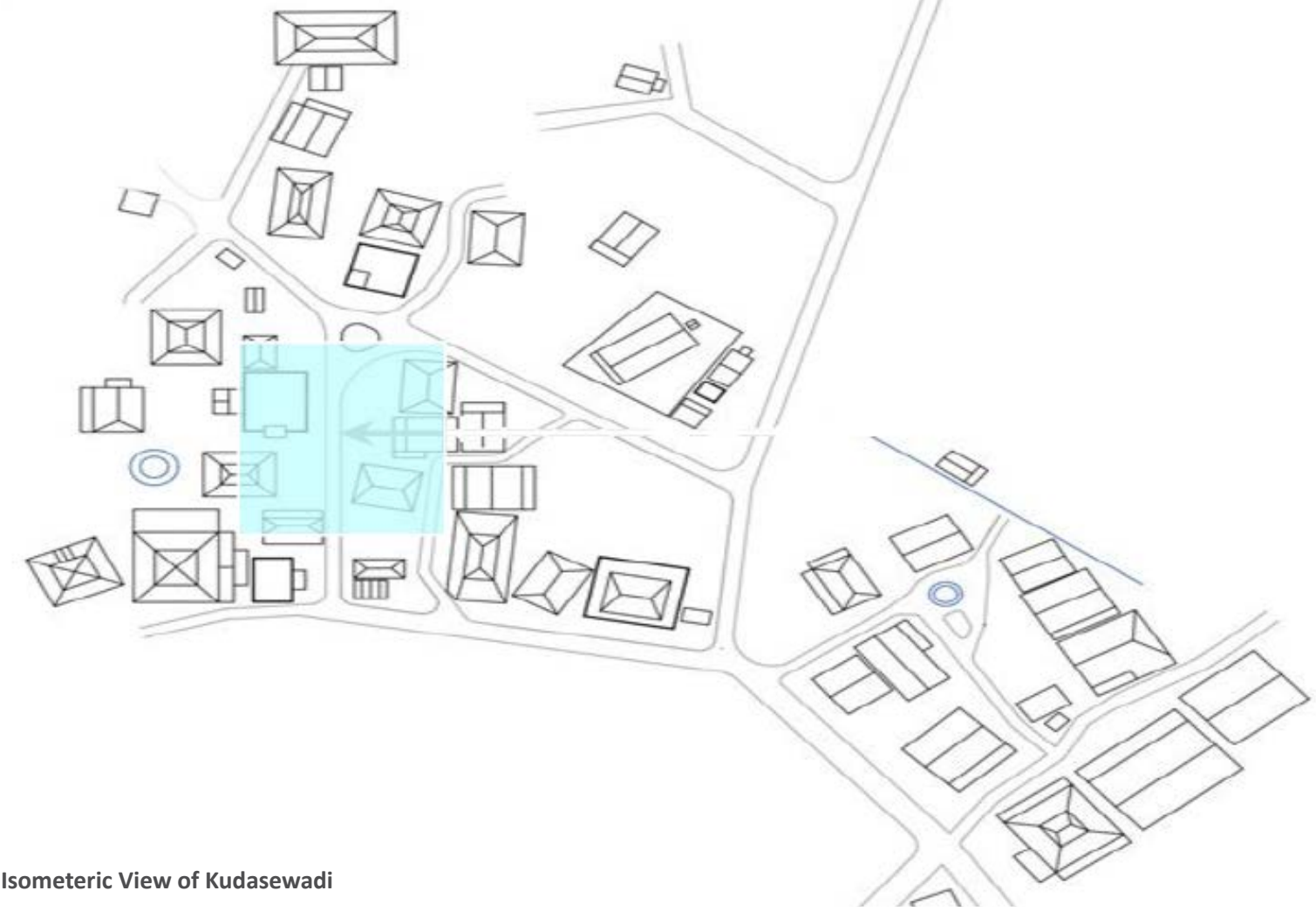




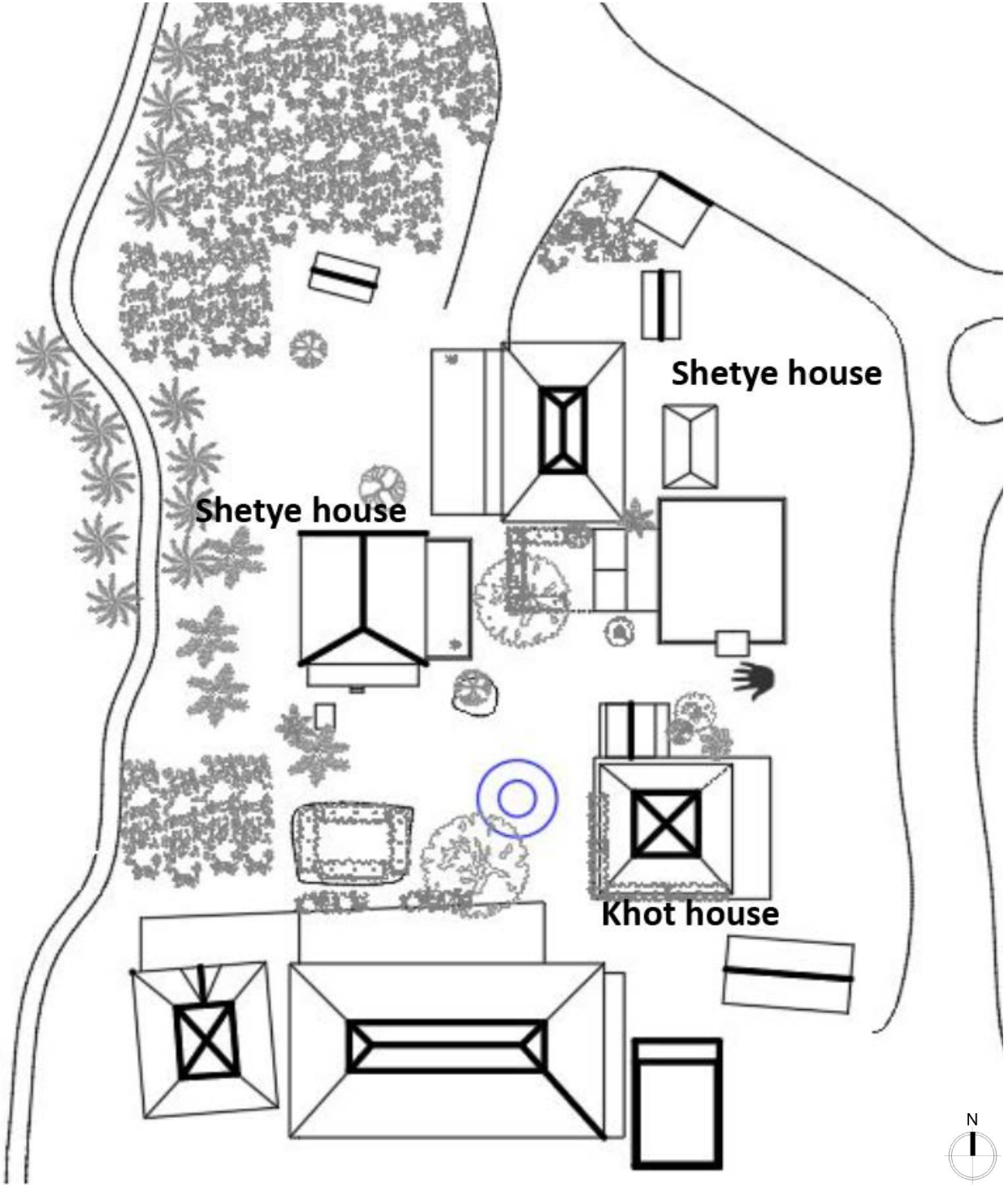


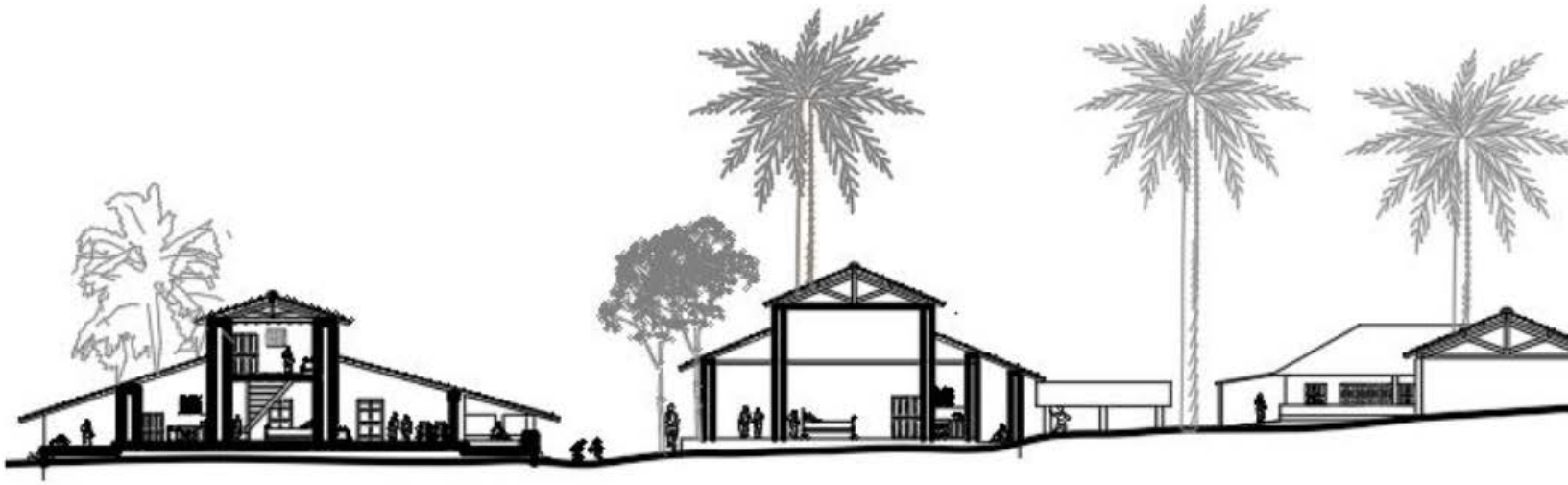


Kudasewadi Gavthanwadi Cluster

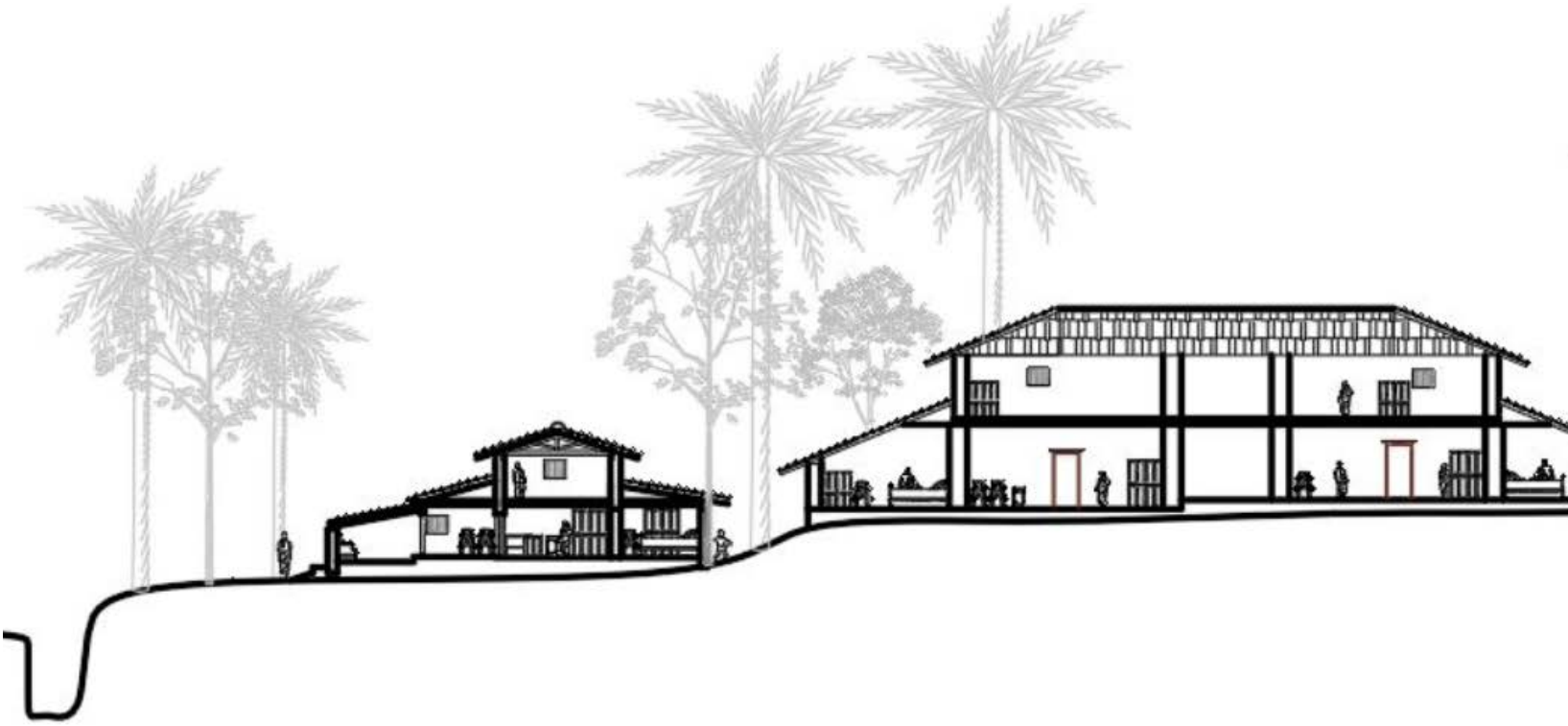


Isometeric View of Kudasewadi

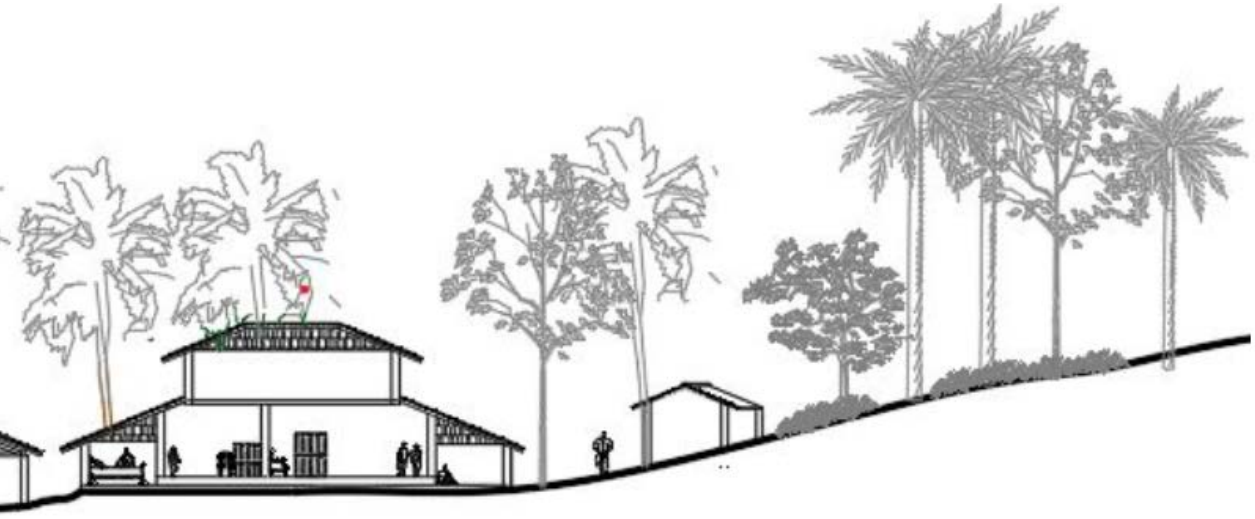

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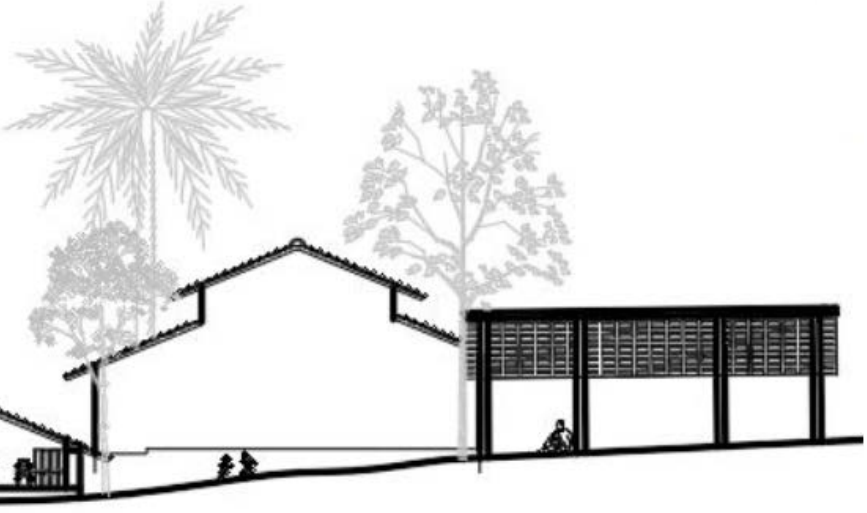


Kudasewadi Gavthanwadi Cluster: Section AA

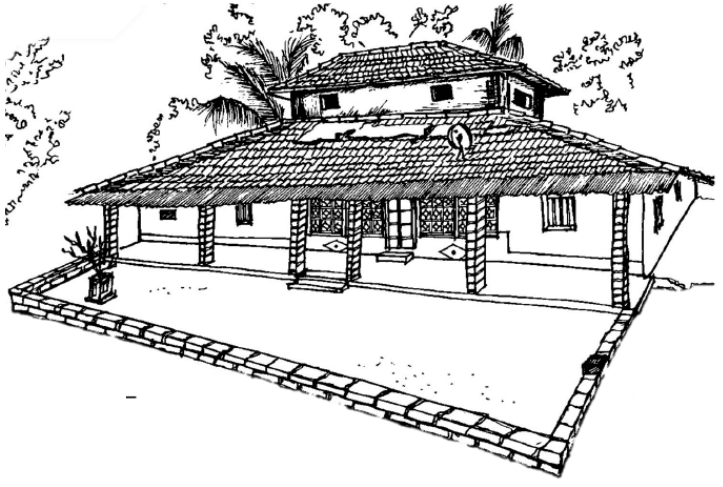


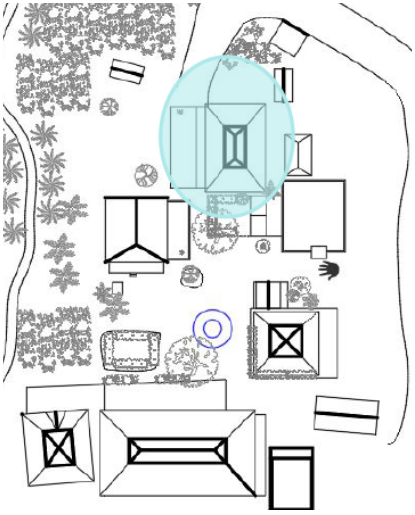
Kudasewadi Gavthanwadi Cluster: Section BB



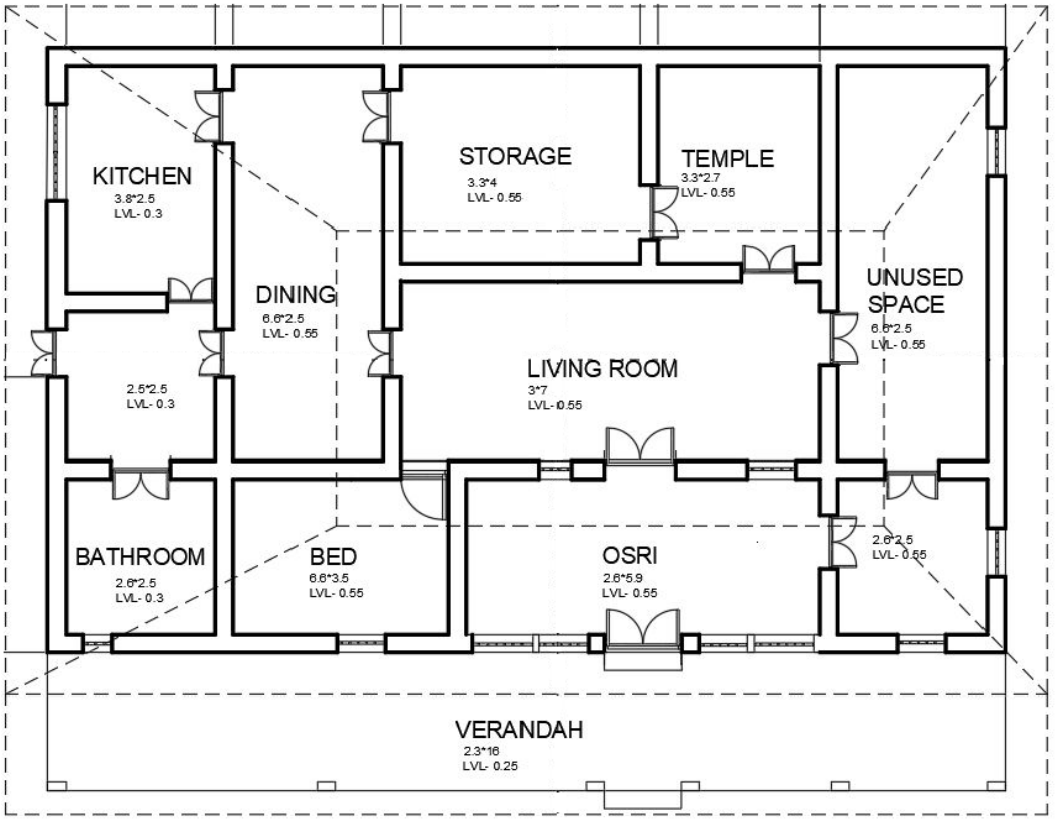


Mr. Sheteye's House



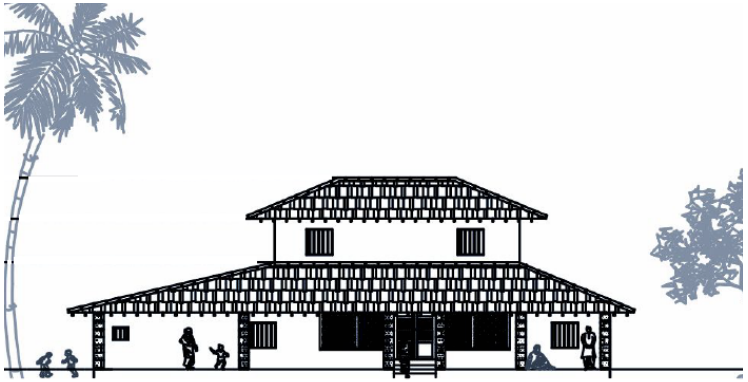


Documented House **Key Plan**

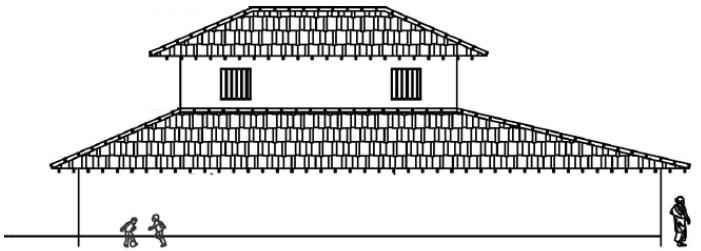


Ground Floor Plan

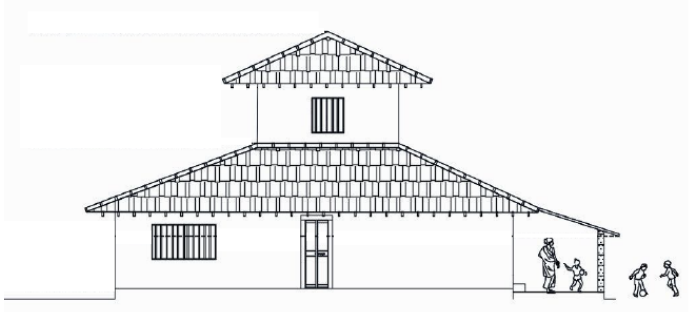




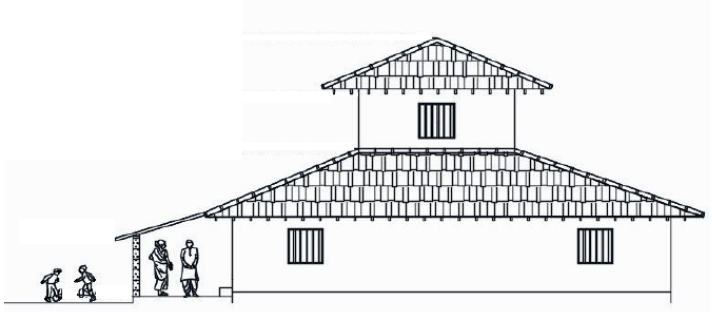
South Elevation



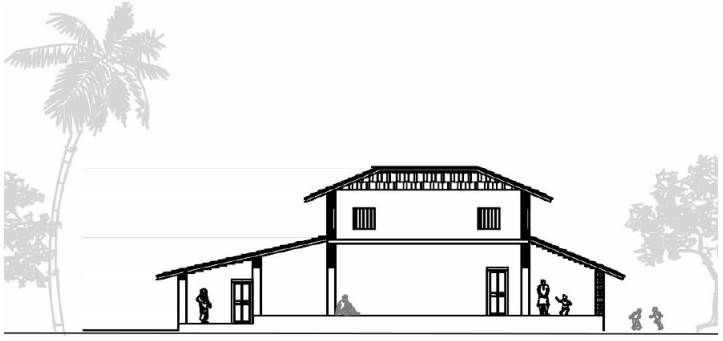
North Elevation



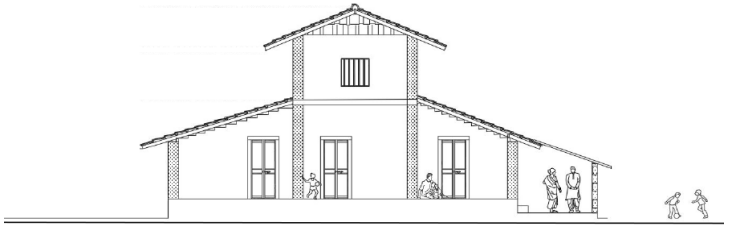
East Elevation



West Elevation



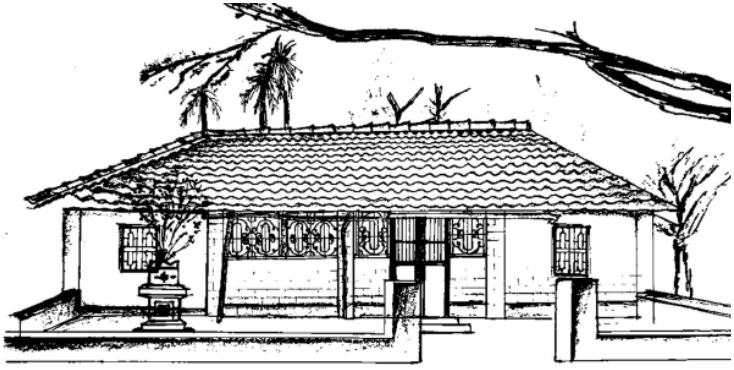
Section AA'

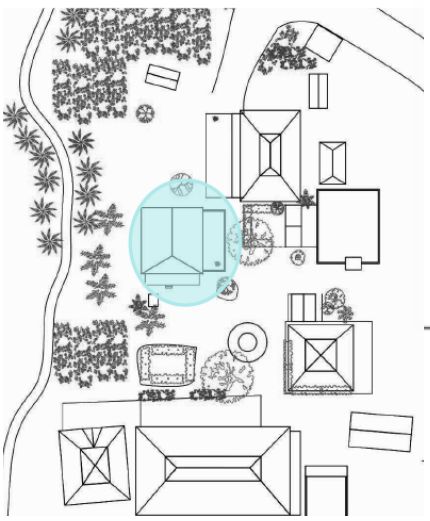


Section BB'

Built by Vinod Shetye's grandfather, this 100-year-old home is shared by Vinod and his family of four. Farming is their primary occupation, and they also run a small shop selling daily necessities.

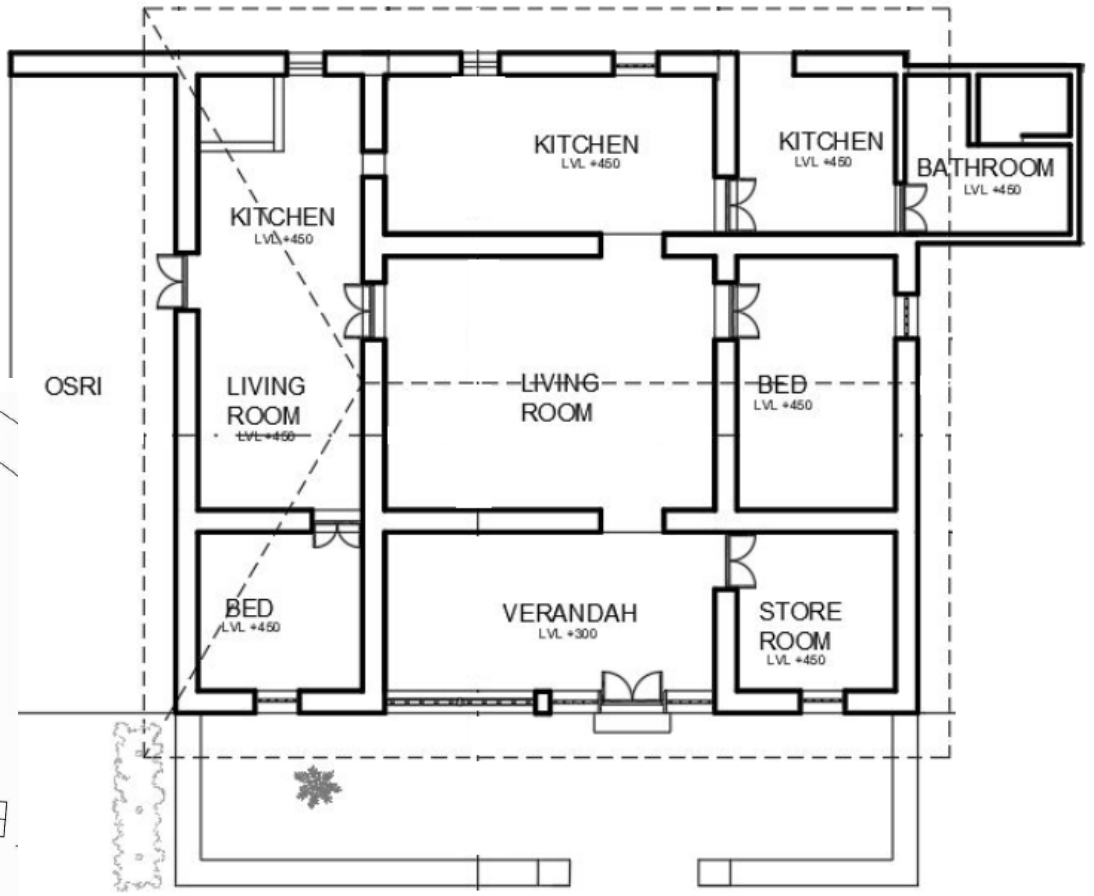
Mr. Shetye's House



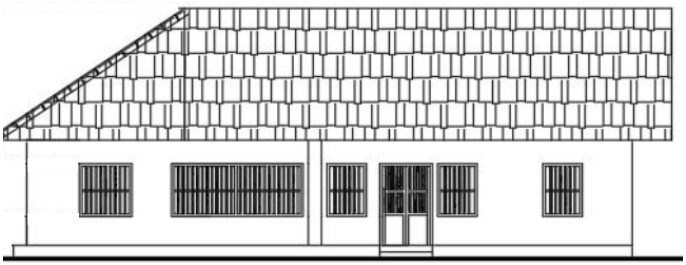


Documented House

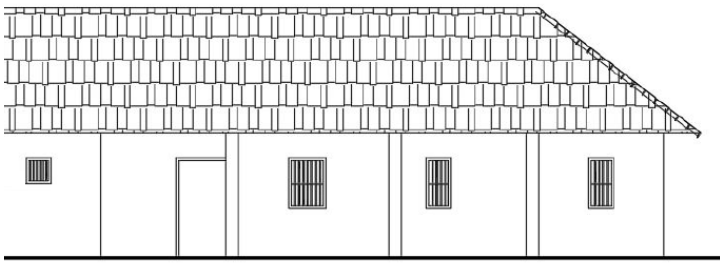
Key Plan



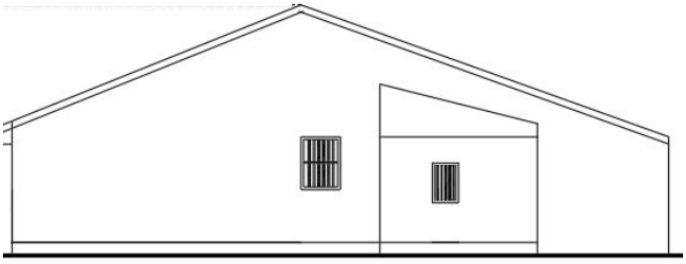
Ground Floor Plan



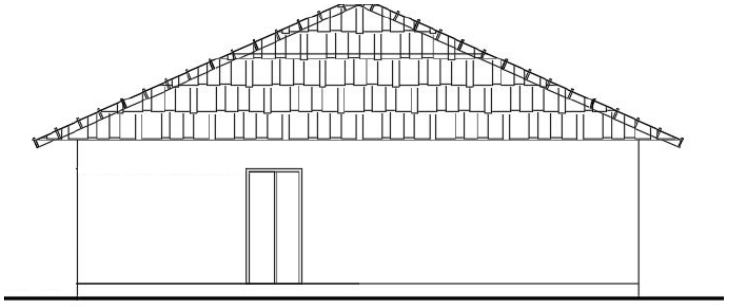
South Elevation



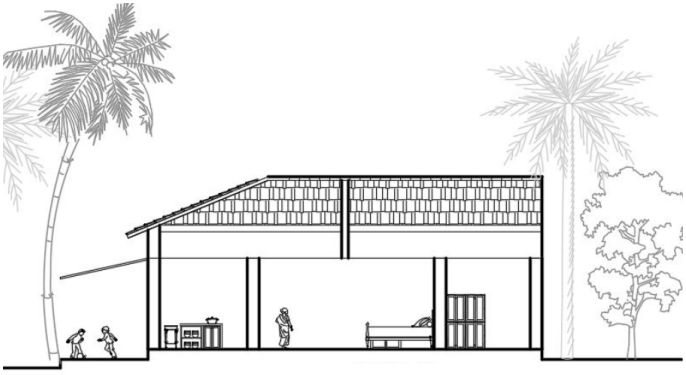
North Elevation



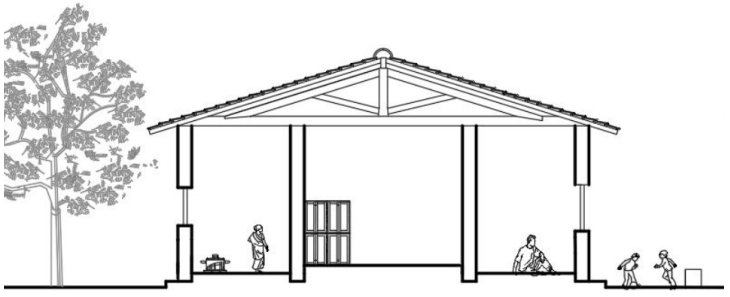
East Elevation



West Elevation



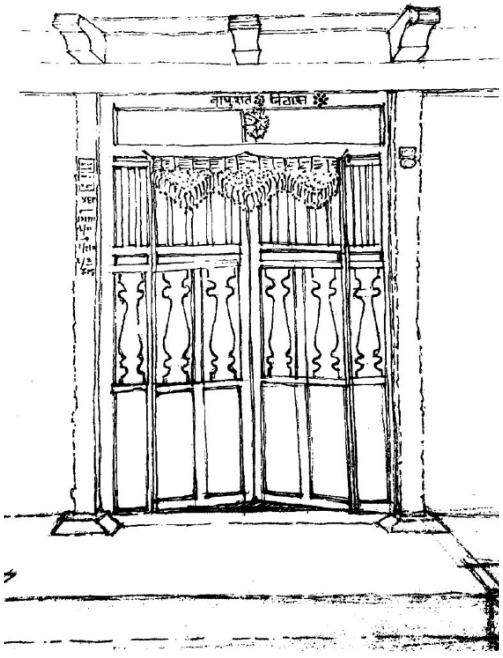
Section AA'

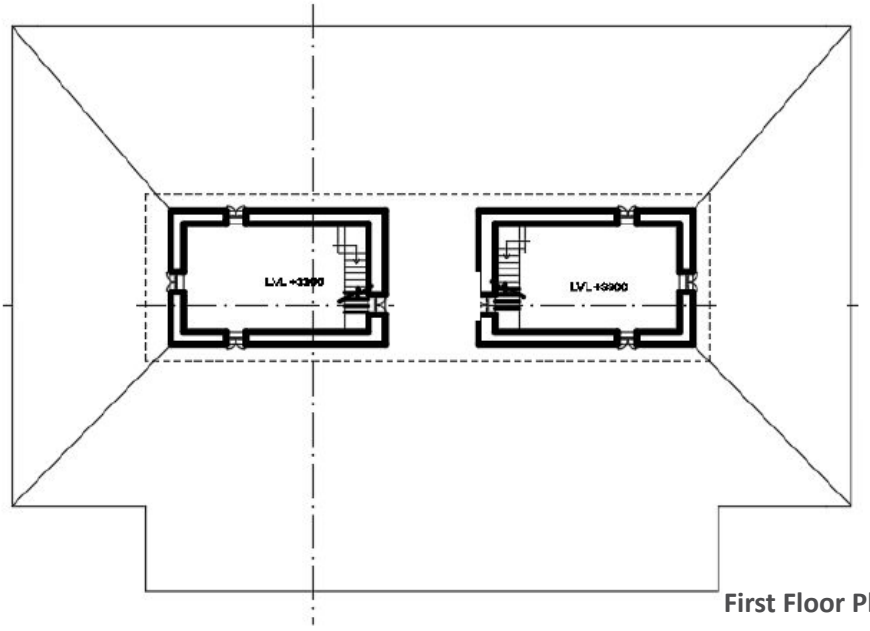


Section BB'

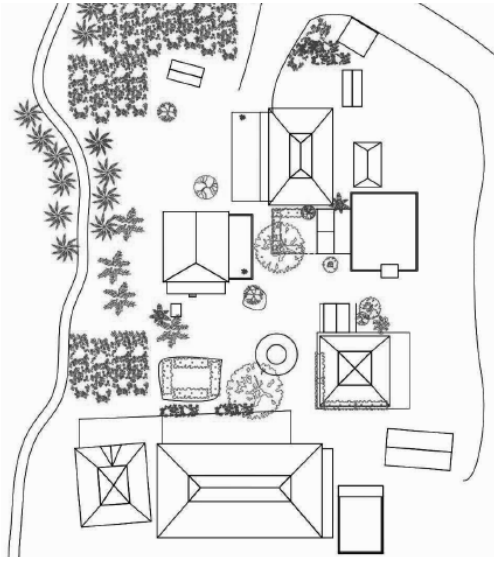
This house, built by the owner's grandfather, is 35 years old. The family, consisting of six members, is engaged in farming and operates a small shop selling everyday products.

Mr. Khot's House



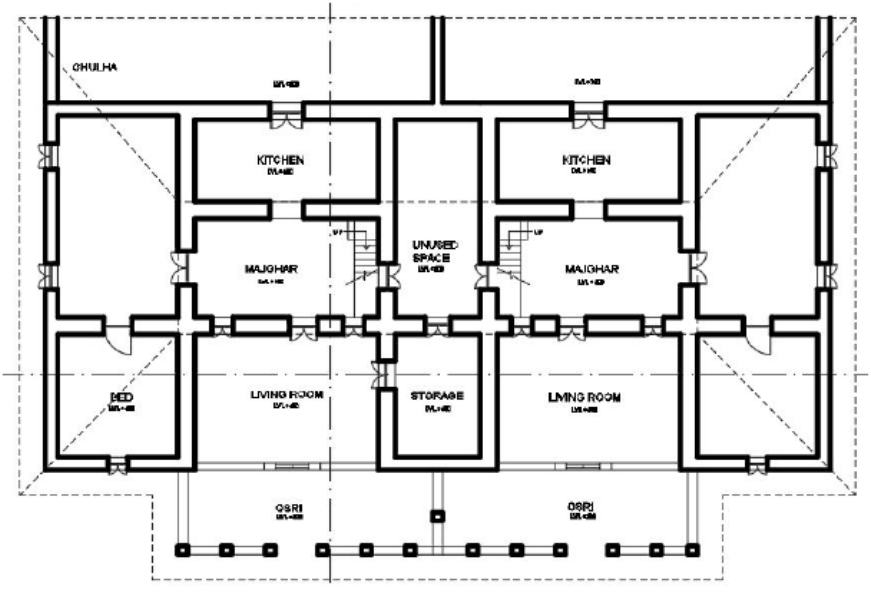


First Floor Plan



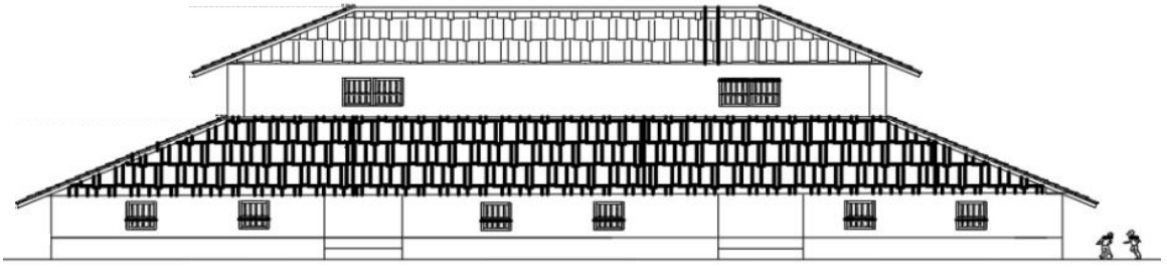
Documented House

Key Plan

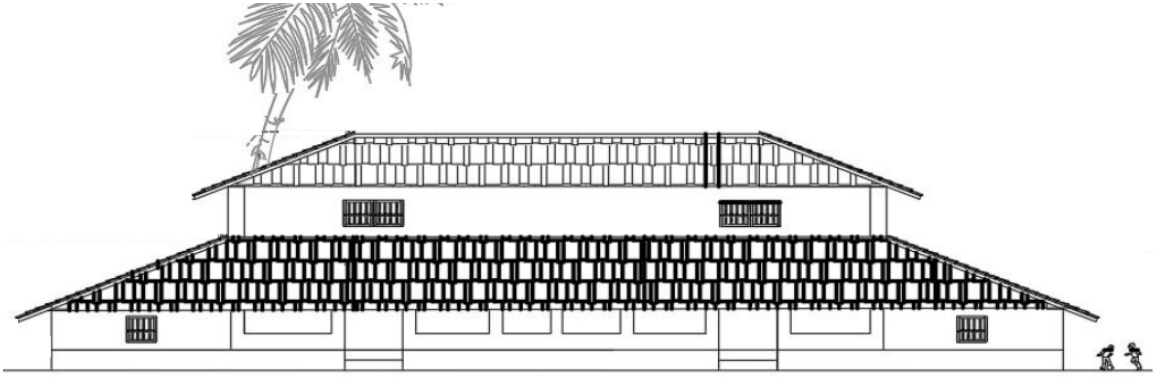


Ground Floor Plan

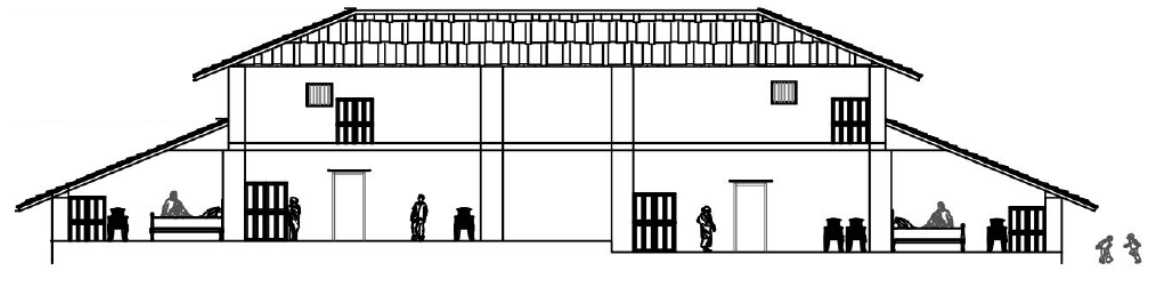




North Elevation

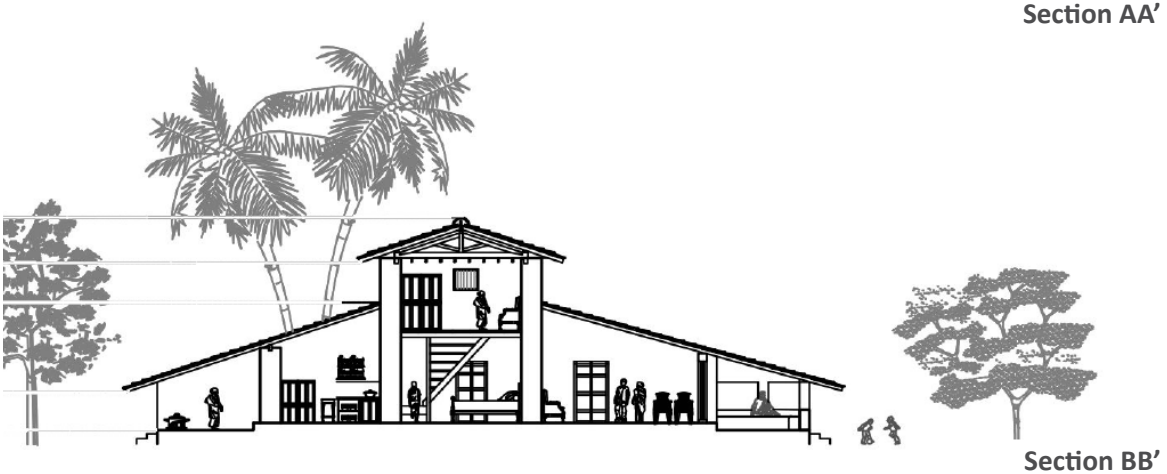


South Elevation



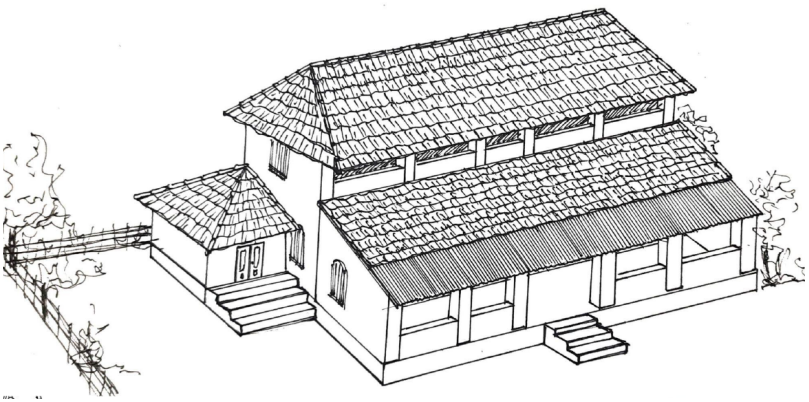
Section AA'

The oldest house in the entire cluster, this home has stood for over 500 years. It is a joint family residence, with all members giving the house special importance in worship and rituals.



Section BB'

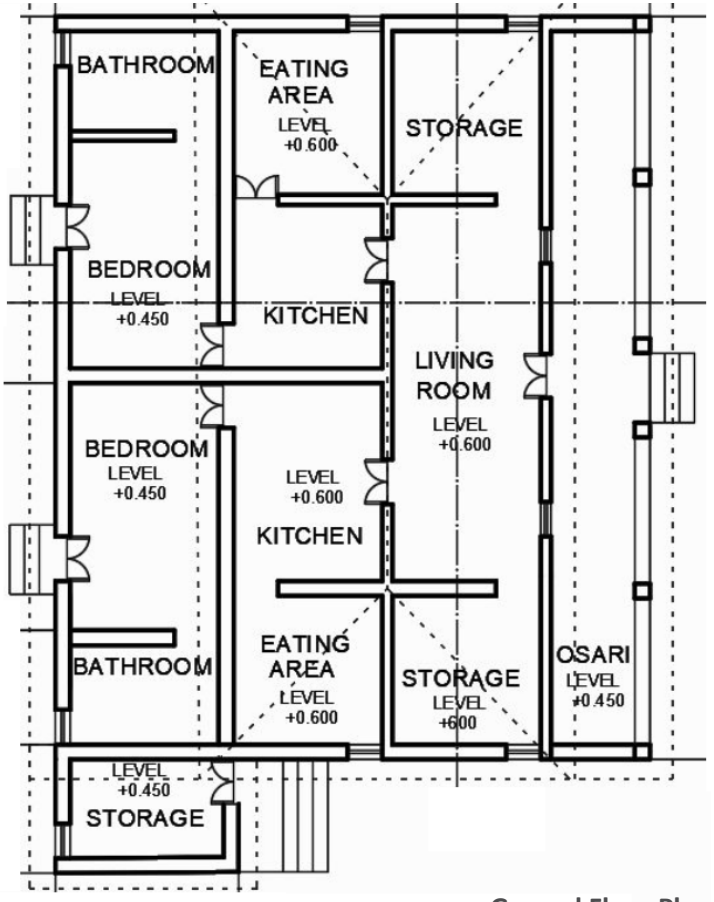
Mr. Kudaskar's House



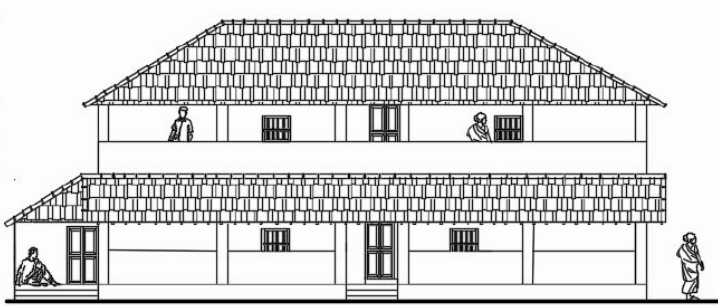


Documented House

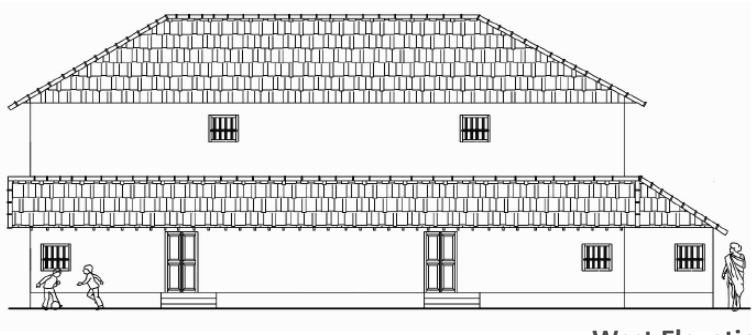
Key Plan



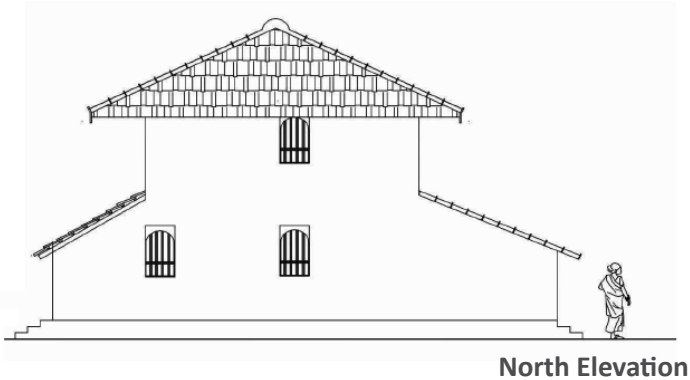
Ground Floor Plan



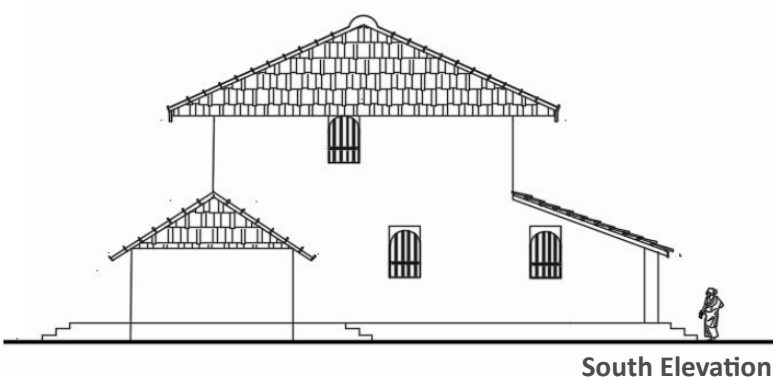
East Elevation



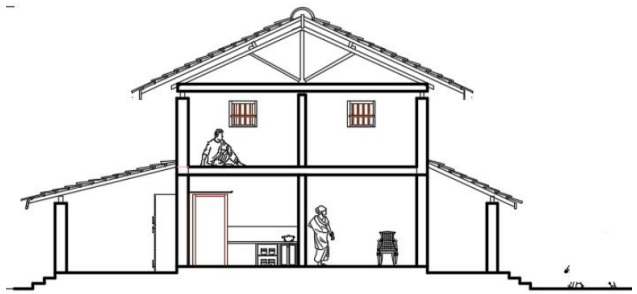
West Elevation



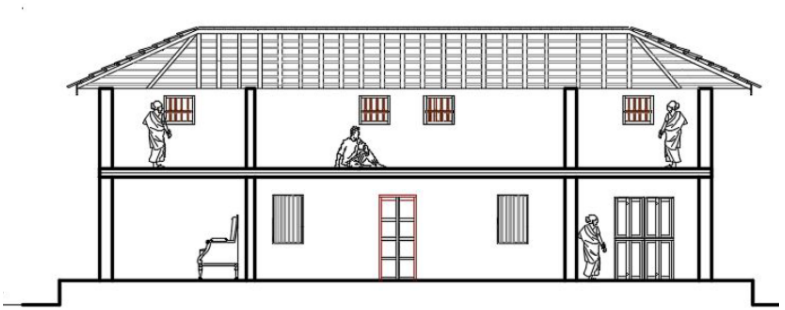
North Elevation



South Elevation



Section AA'



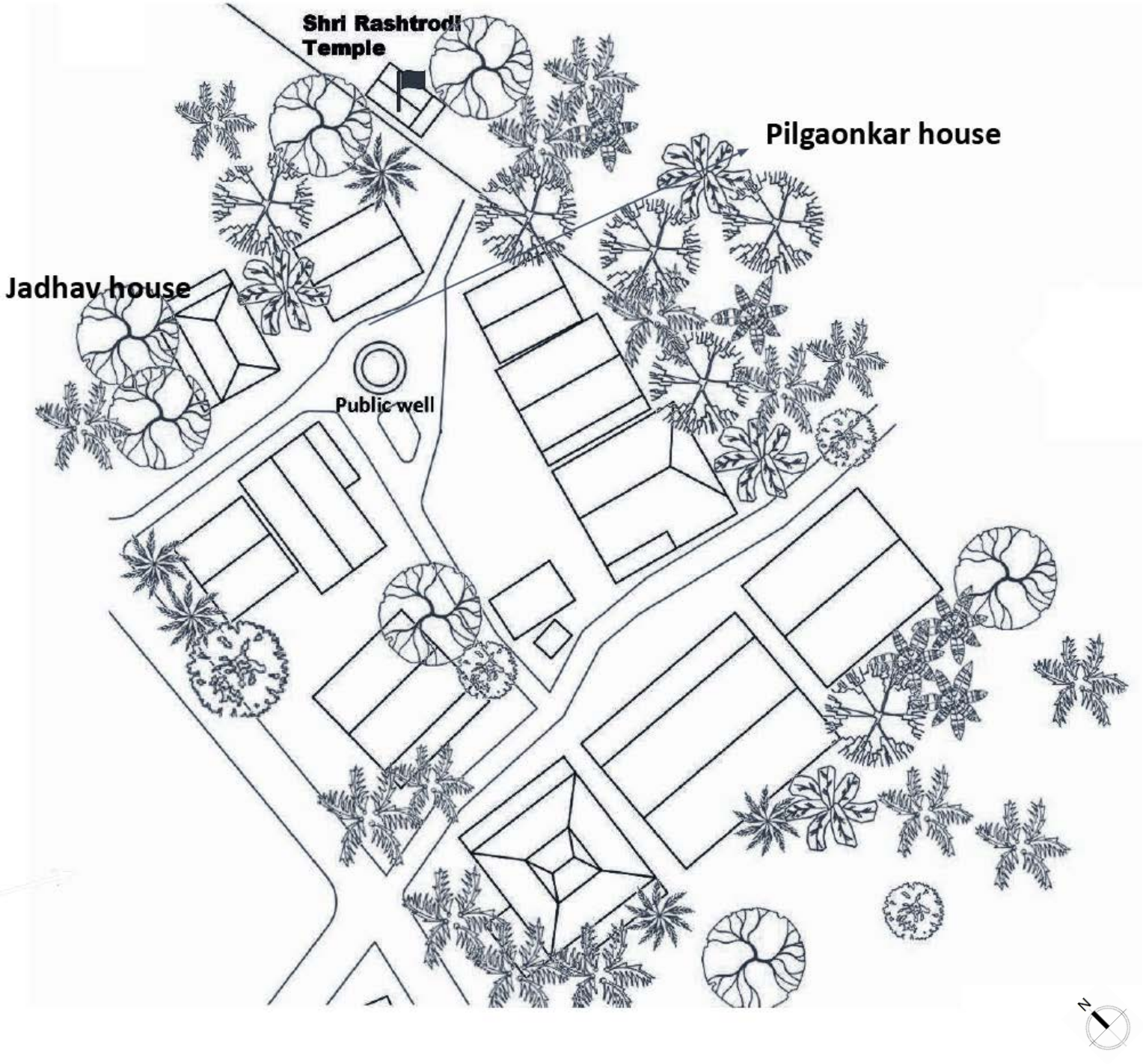
Section BB'

Located in Gavthanwadi, Kudase, this house belongs to Prasad Kudaskar. He is both a farmer and the president of the Gram Panchayat. The family consists of eight members.

Kudasewadi Jadhavwadi Cluster



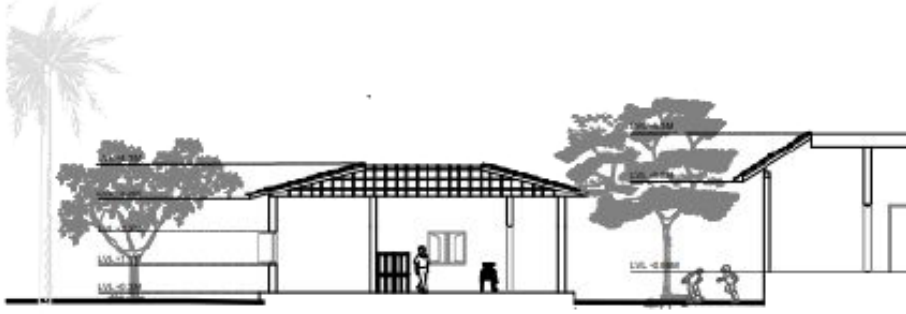
Isometeric View of Gavthanwadi

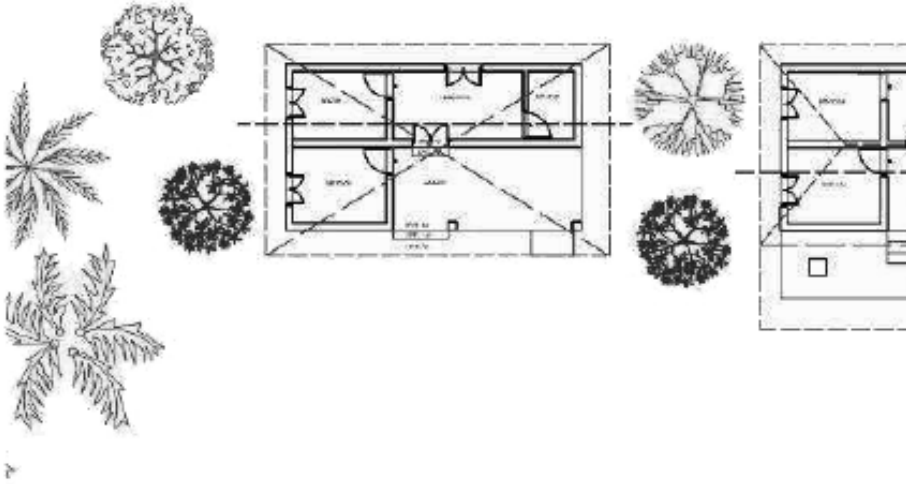


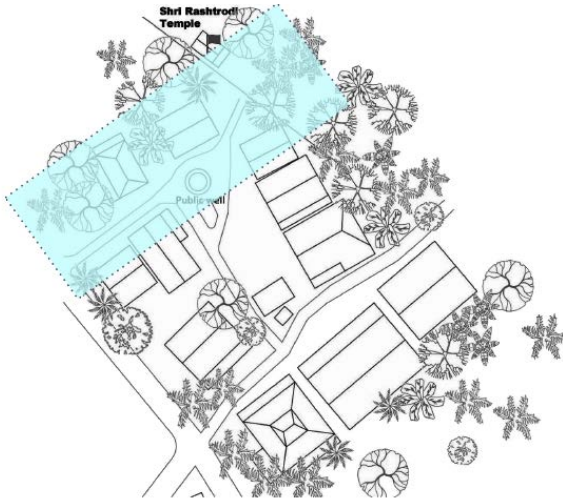
Roof plan of jadhavwadi

Rashtroli temple, Jadhav and Pilgaonkar House

Jadhavwadi was established over a century ago by migrants who settled on land previously occupied by residents of the Gaothan Wadi. This migration formed a community known as the Jadhavs. The housing typologies here resemble those found throughout Kudase but lack boundaries due to the limited space, fostering a communal way of living.





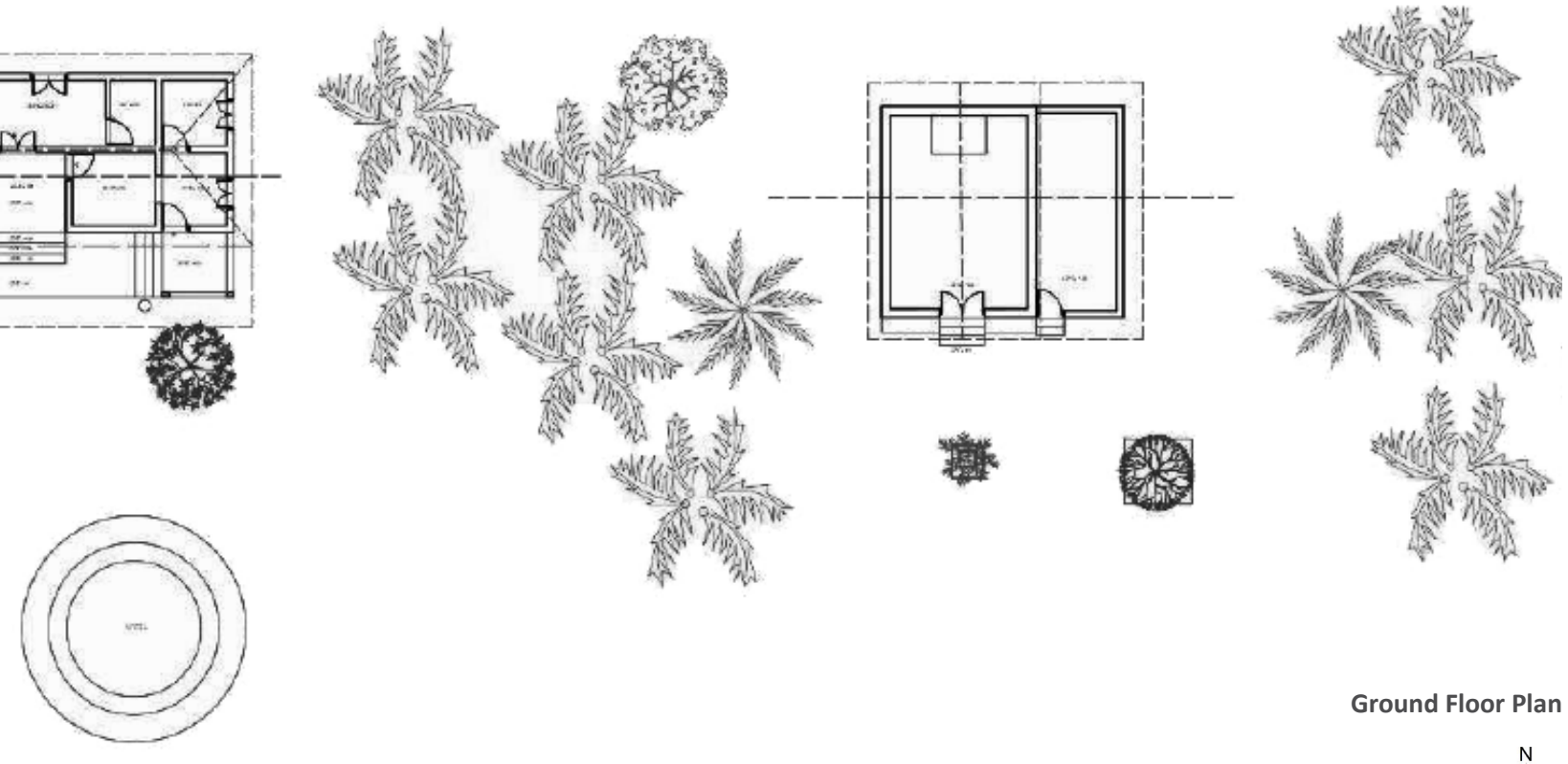


Documented House

Key Plan



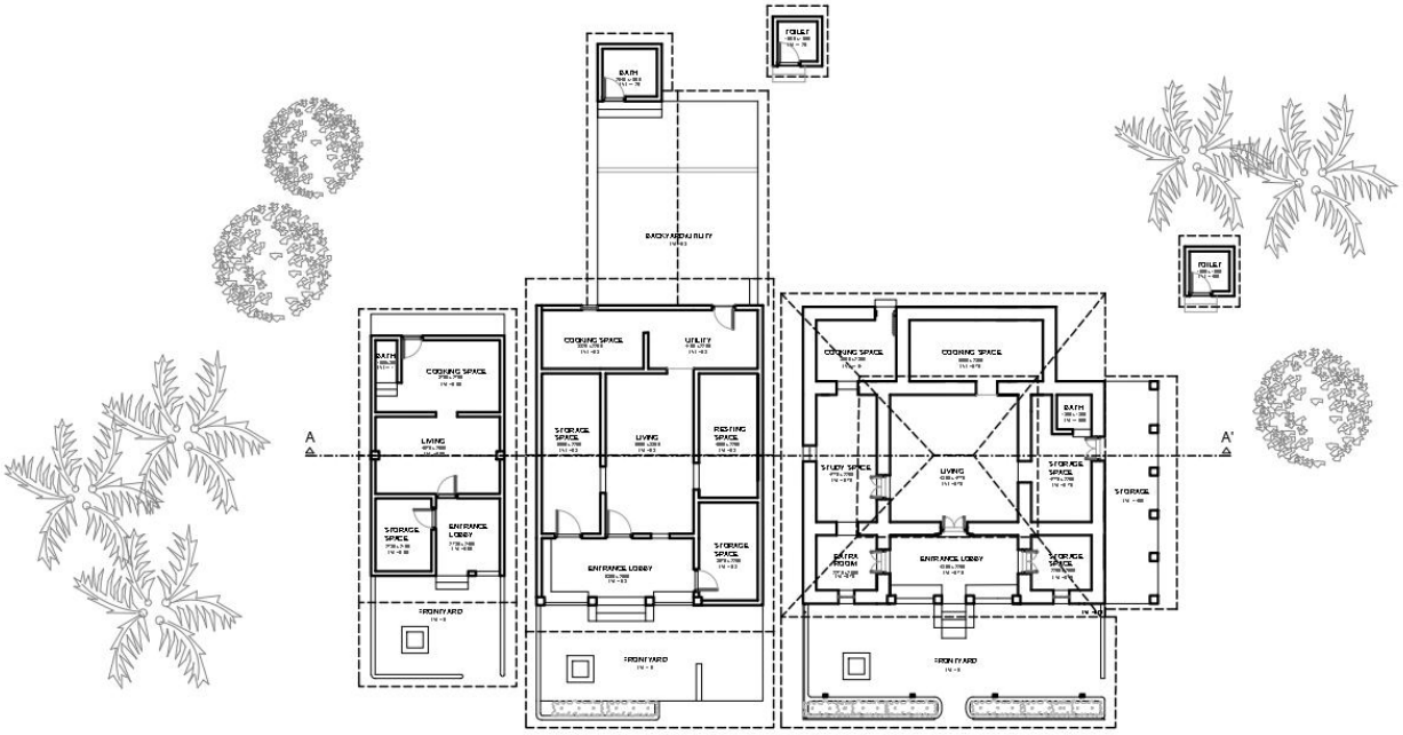
Section



Ground Floor Plan

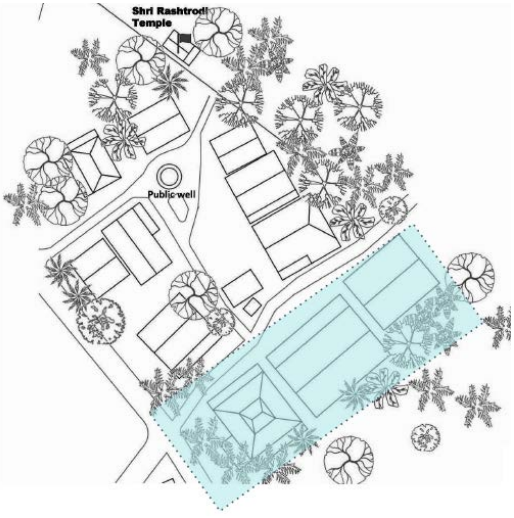


Jadhav Houses



Ground Floor Plan

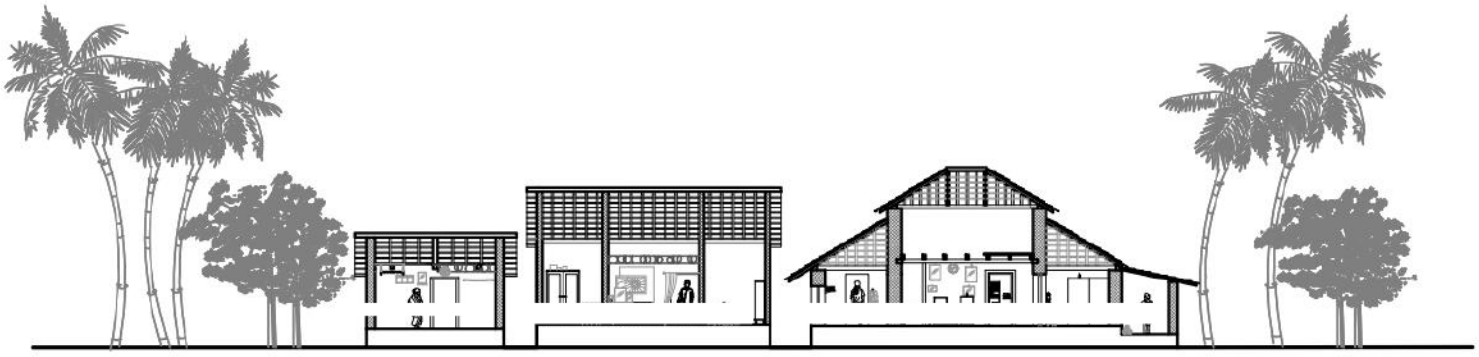




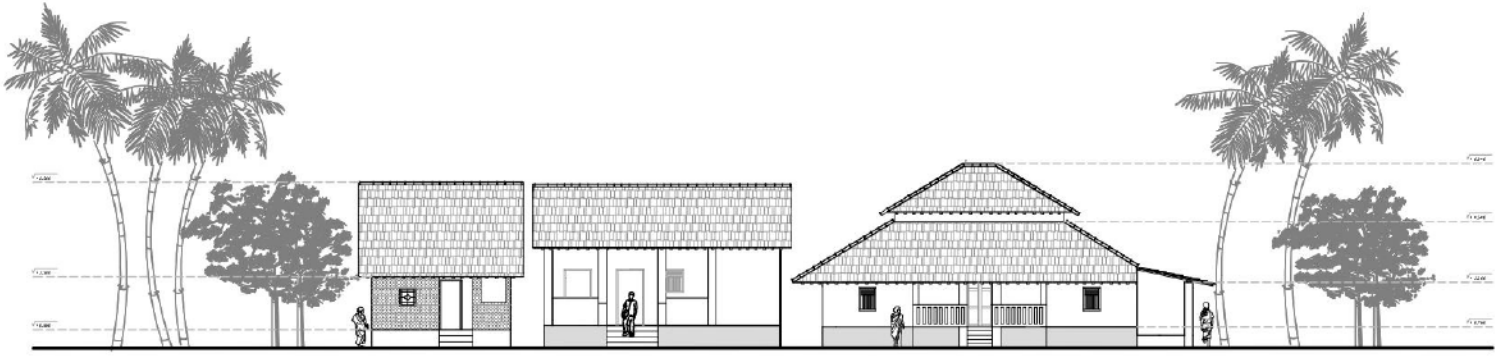
Documented House

Key Plan





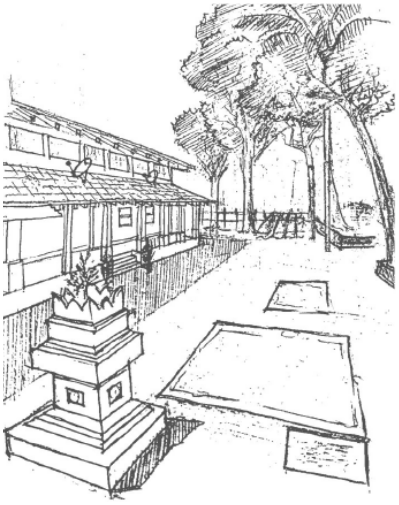
Section



Elevation

The layout and design of these houses demonstrate how closely the homes are built due to the constrained space. Over time, this arrangement has fostered a sense of community, where the people of Jadhavwadi, with no clear boundaries between houses, have forged stronger bonds with one another.

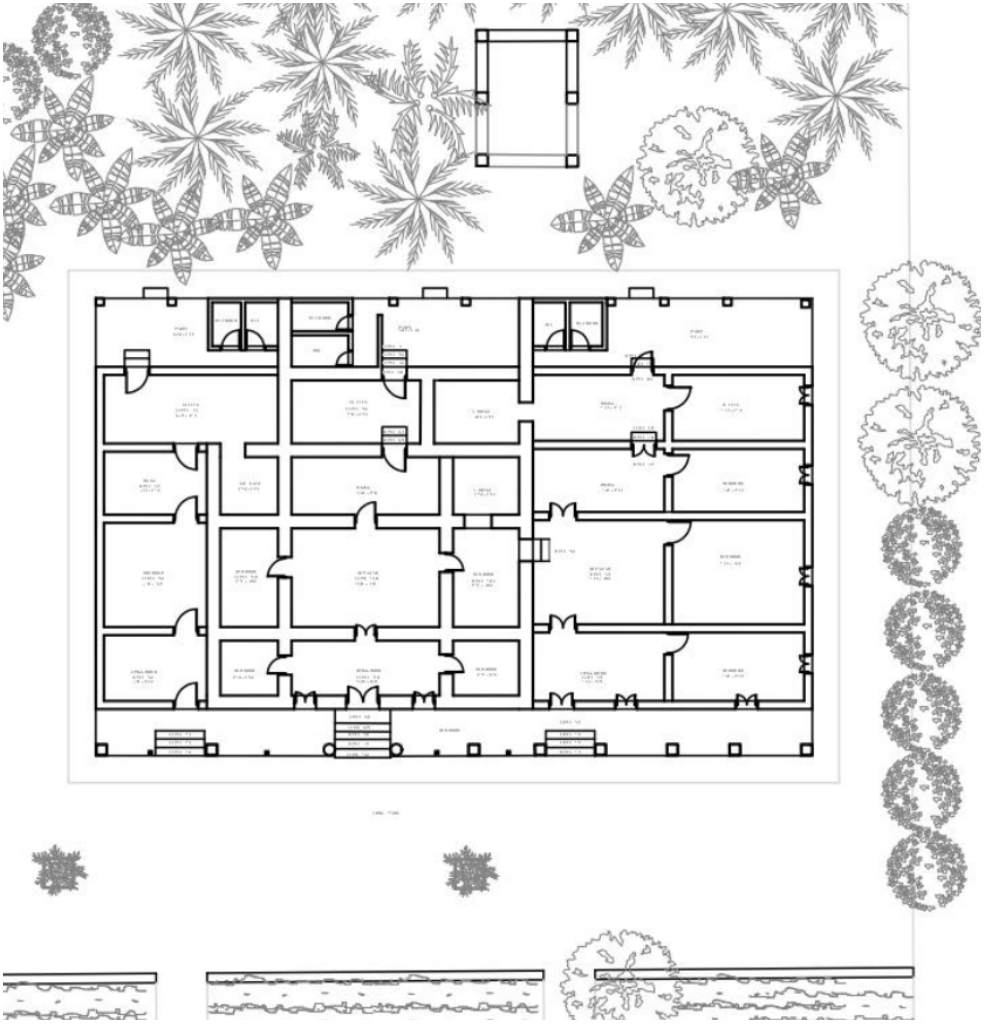
Mr. Nike's House





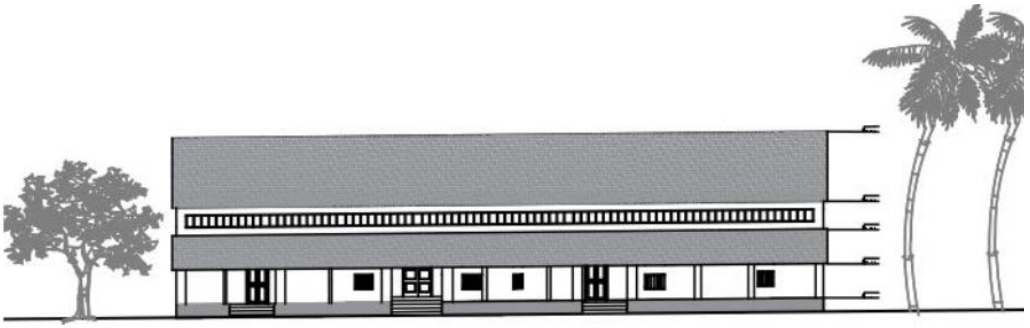
Documented House

Key Plan



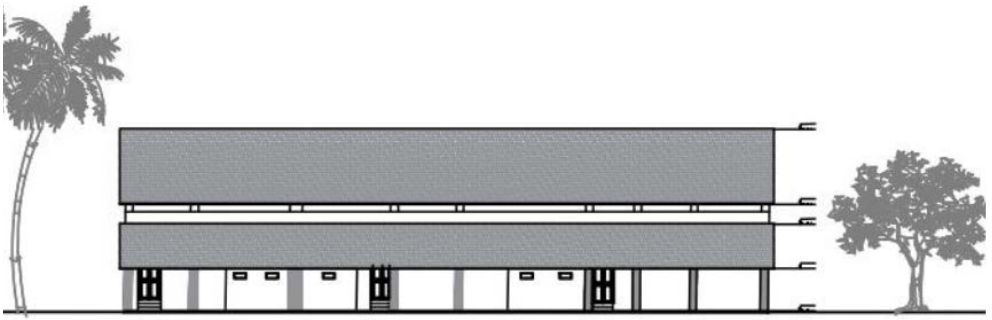
Ground Floor Plan



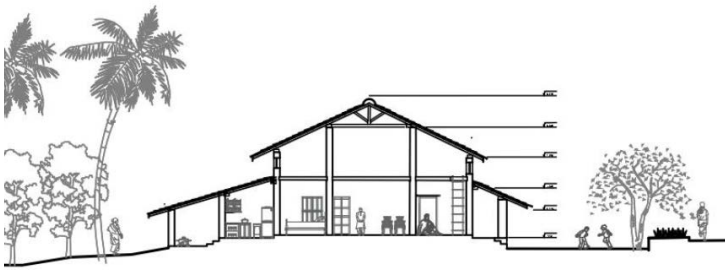


South West Elevation

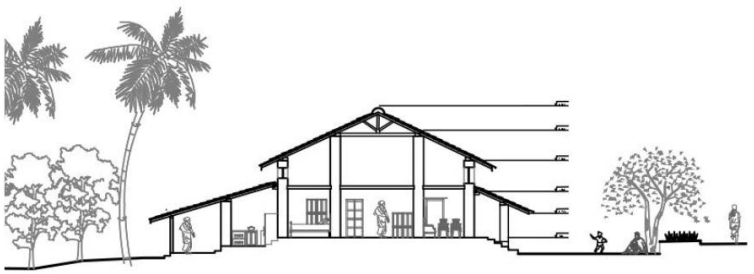




North East Elevation



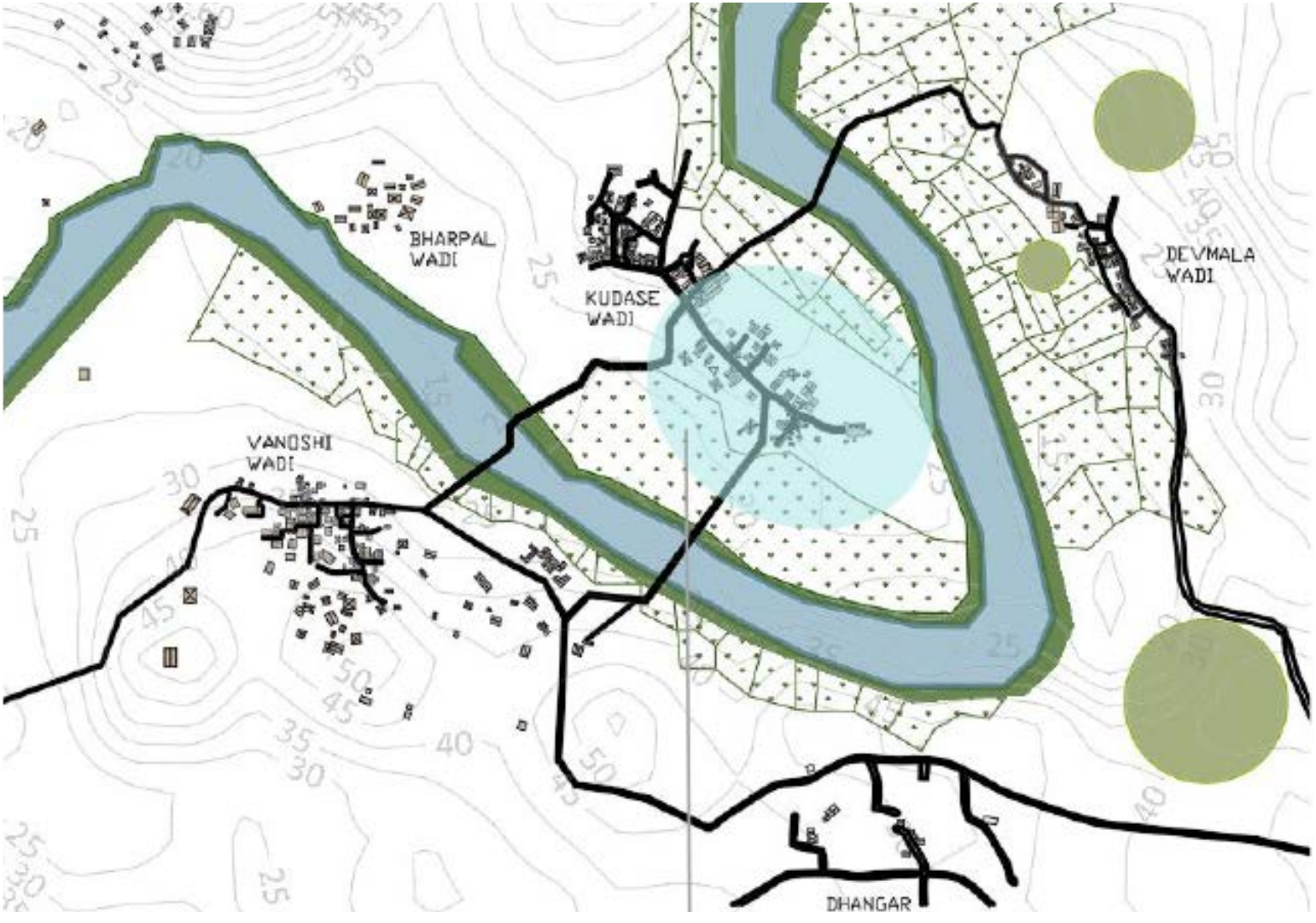
Section AA'



Section BB'

Located in the Sateri Devi Cluster, this house is part of the larger community.

Sateri Devi Cluster



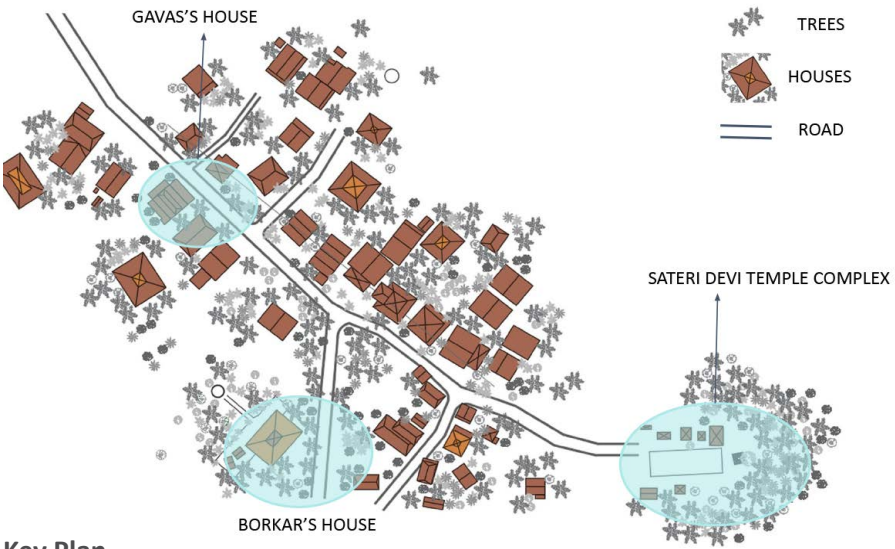

GAVAS'S HOUSE
TREES
HOUSES
ROAD
SATERI DEVI TEMPLE COMPLEX
BORKAR'S HOUSE
N



Sateri Devi Cluster: Section AA'



Sateri Devi Cluster: Section BB'



Key Plan



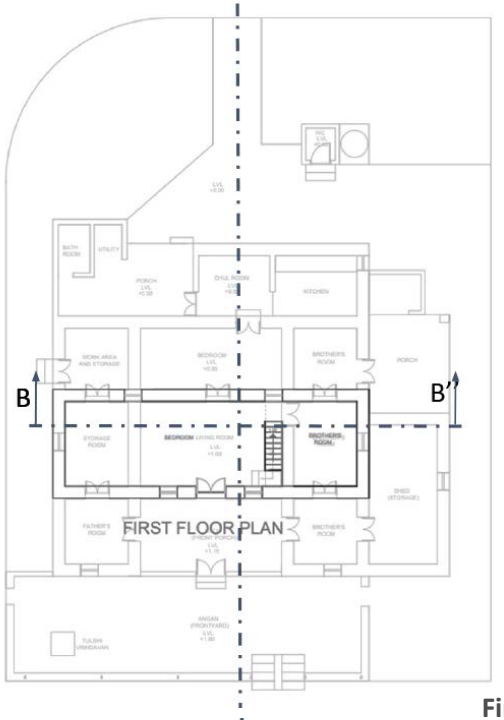
Mr. Gavas' House



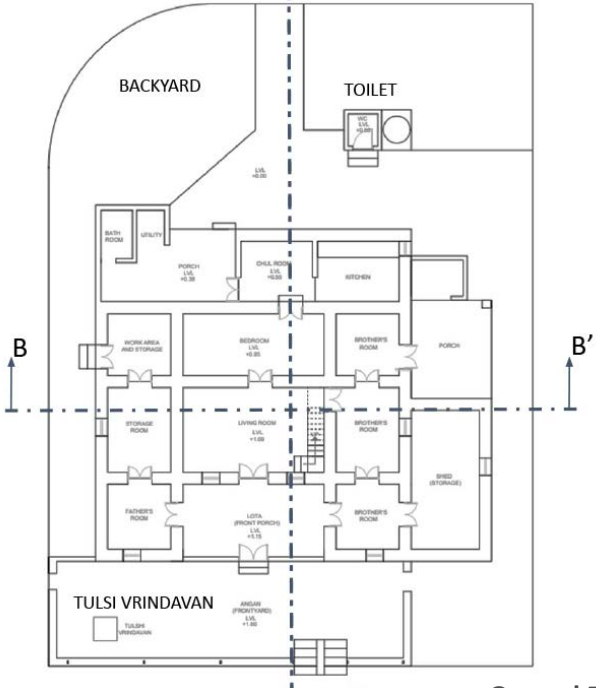


Documented House

Key Plan

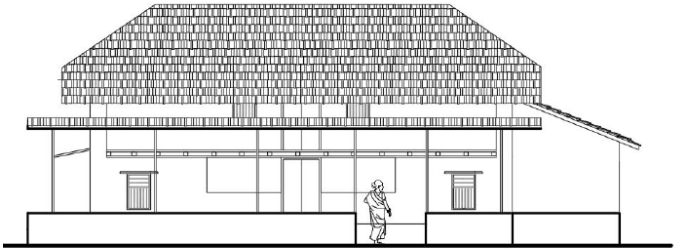


First Floor Plan

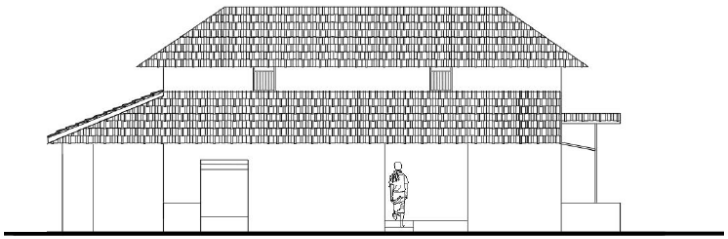


Ground Floor Plan

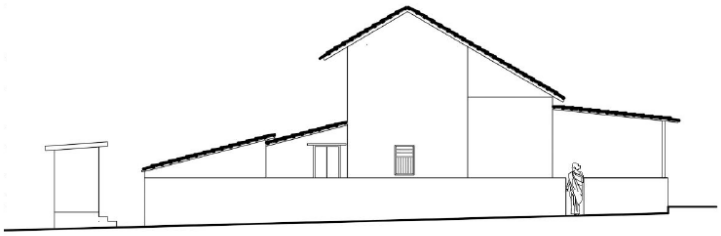




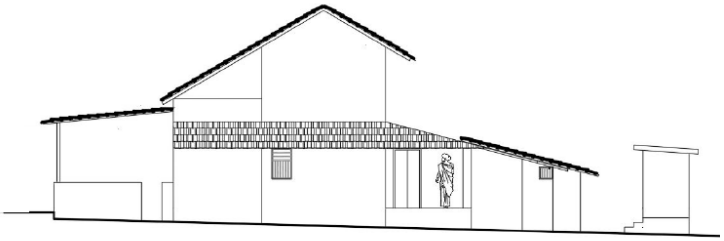
South Elevation



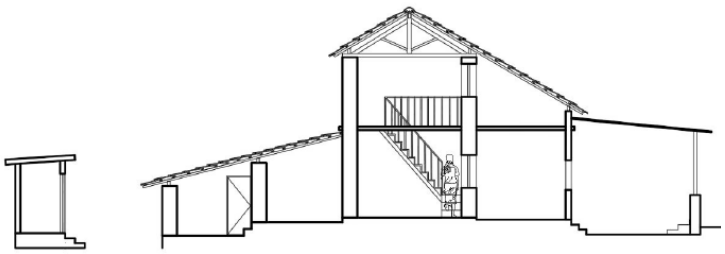
North Elevation



West Elevation



East Elevation

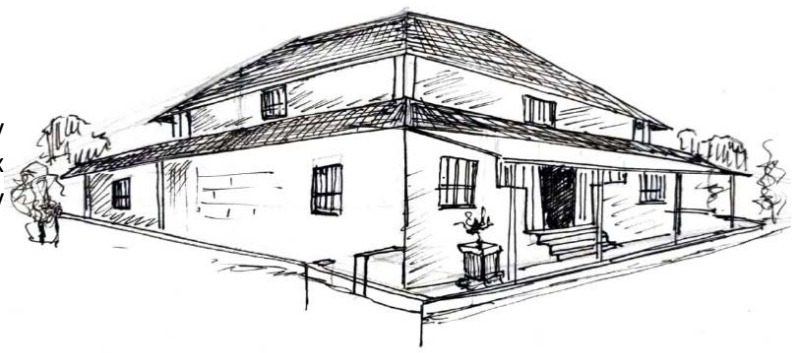


Section AA'

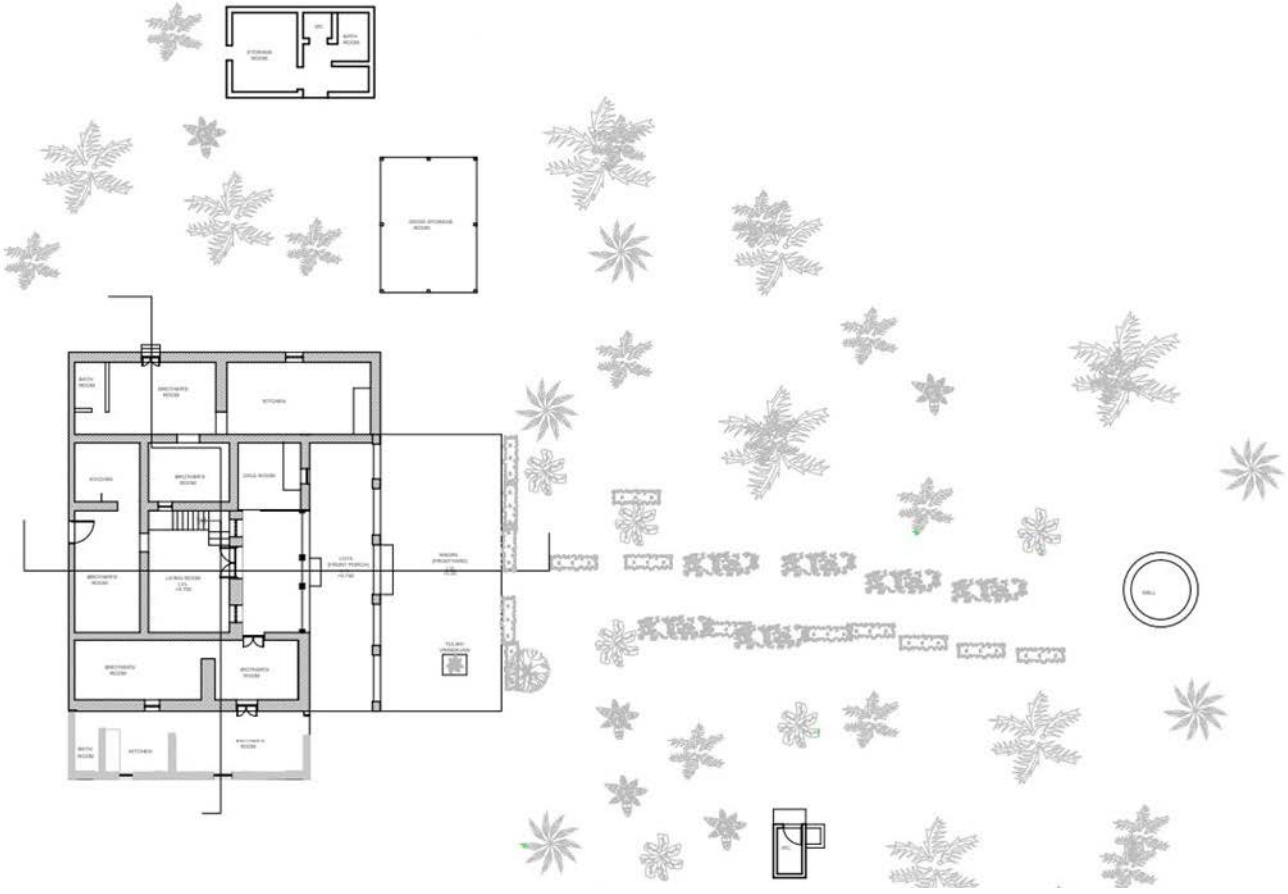


Section BB'

Built 50 years ago, this house belongs to a former military man who now practices farming. The family consists of six members, and they own numerous cattle and animals. They are true Konkani people.



Mr. Borker's House



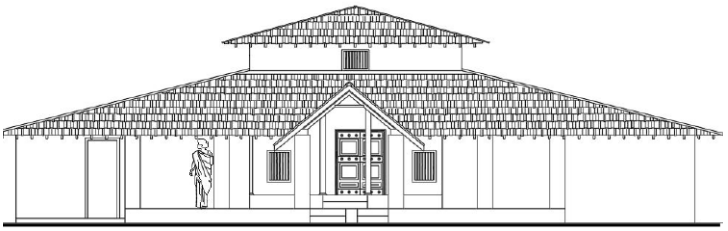
Ground Floor Plan



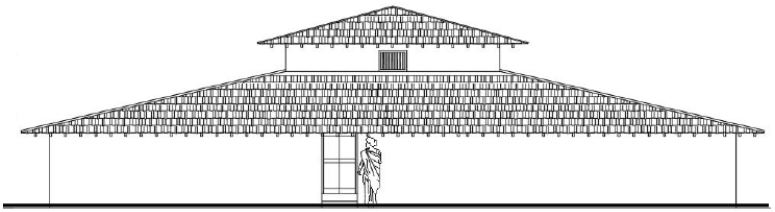
Documented House

Key Plan

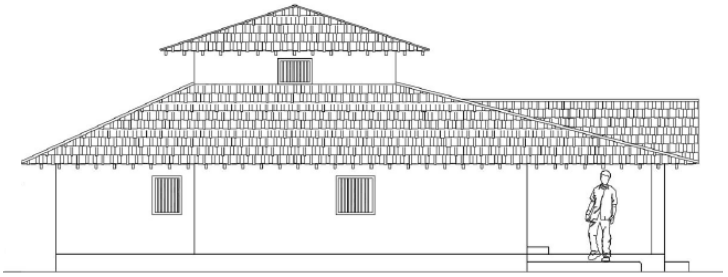




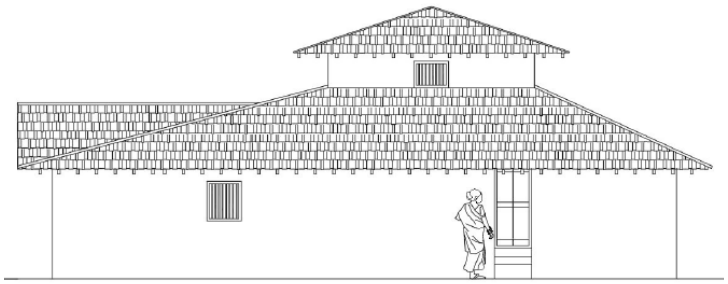
South Elevation



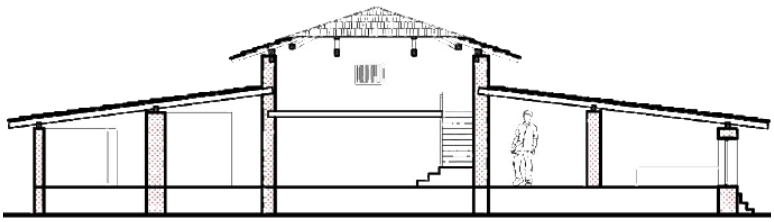
North Elevation



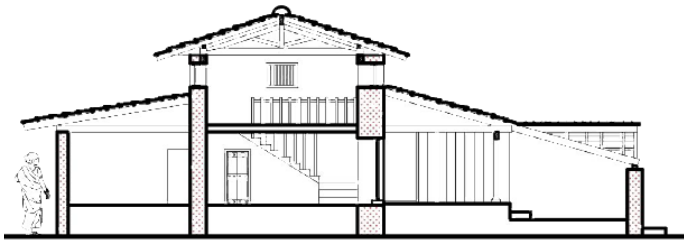
West Elevation



East Elevation



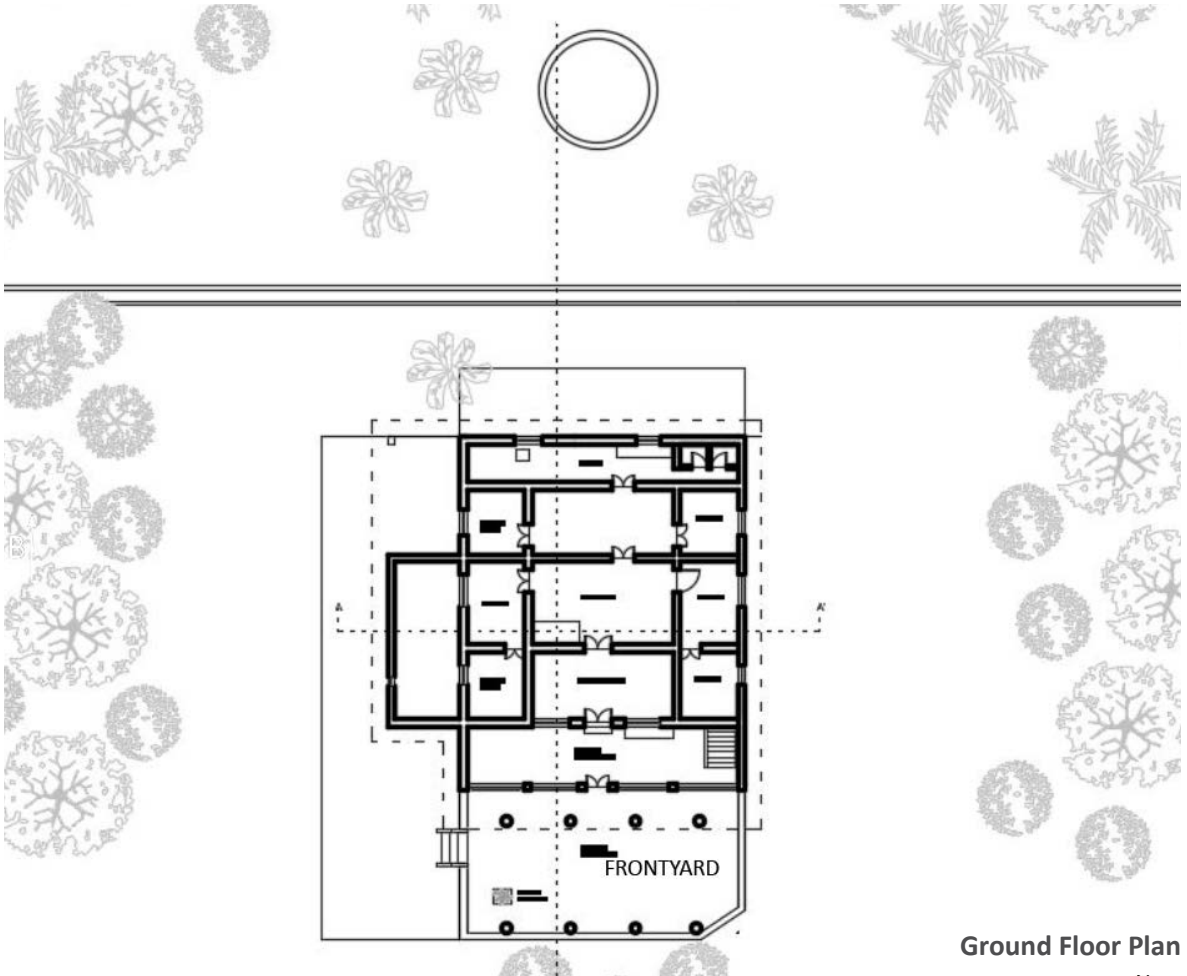
Section AA'



Section BB'

Constructed around 80 years ago, this house was originally home to three brothers, but family conflicts led to their separation. As a result, the house's spaces were reconfigured over time, including the addition of separate toilets for each family.

Mr. Desai's House



Ground Floor Plan

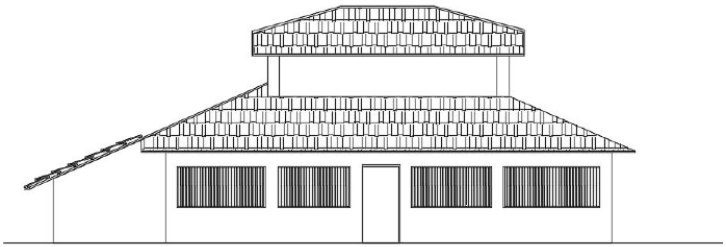




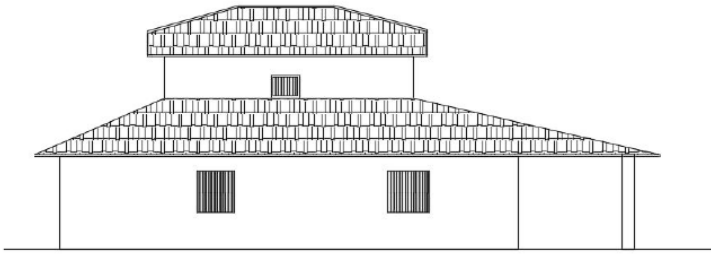
Documented House

Key Plan

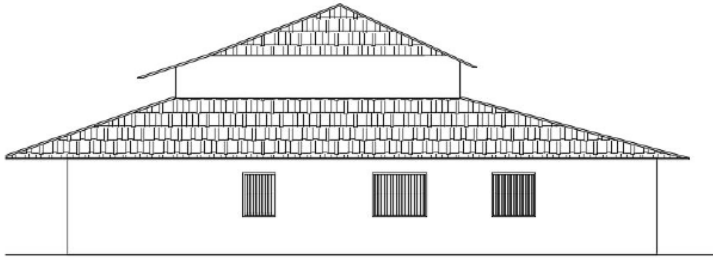




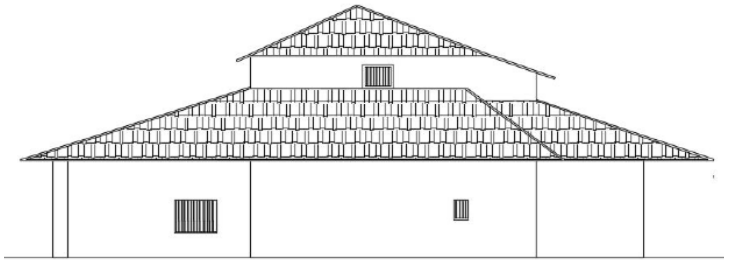
South Elevation



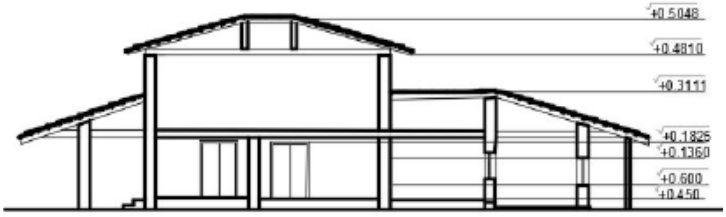
North Elevation



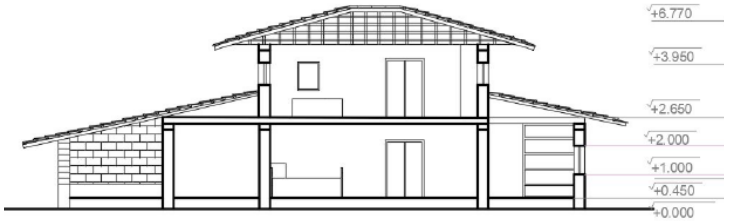
East Elevation



West Elevation



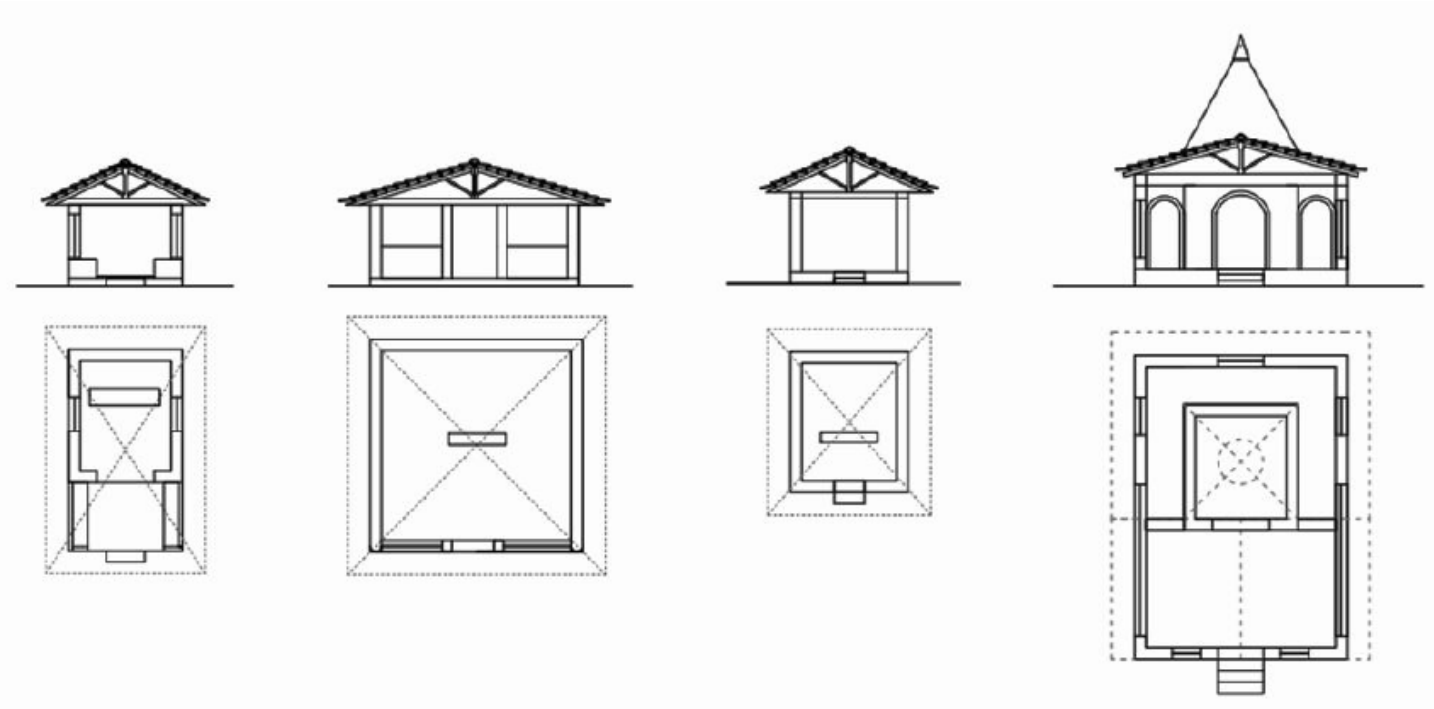
Section AA'



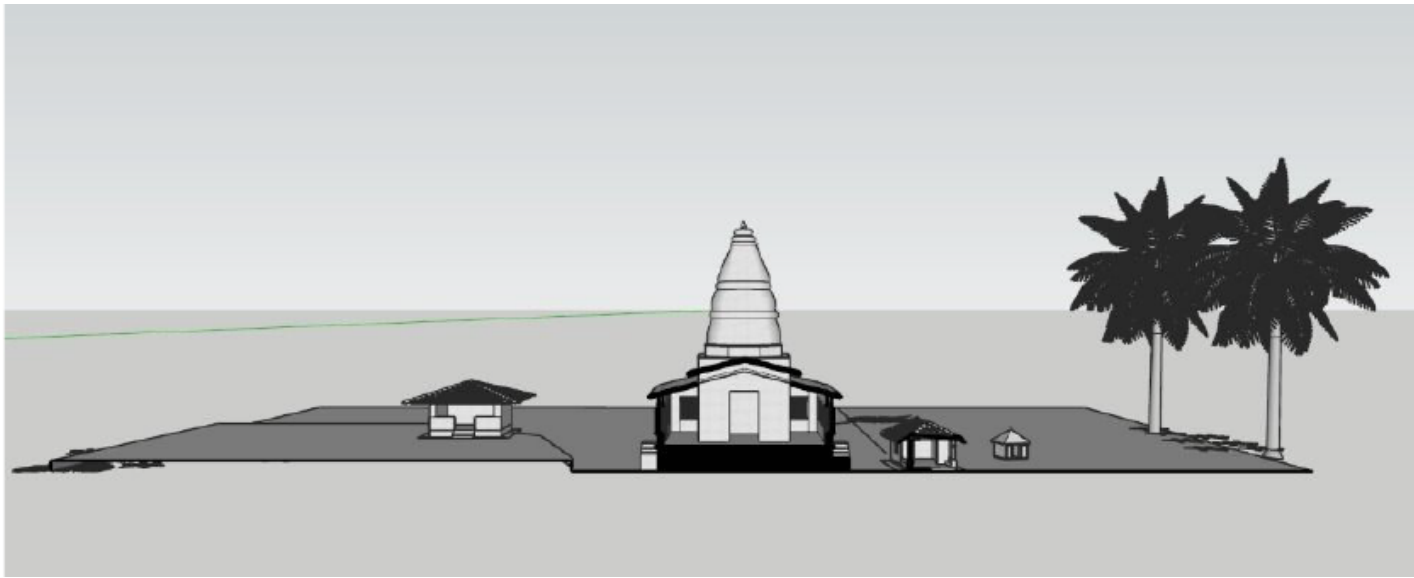
Section BB'

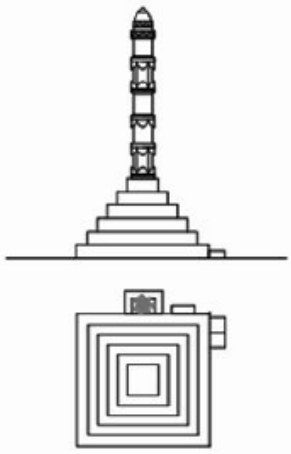
Built about 50 years ago, this house was initially home to four members. The woman who owned it was a teacher, and the house's spaces were adjusted as the family grew. Farming was the primary occupation of the family, and they identified as proper Konkani people.

Sateri Devi Temple Complex

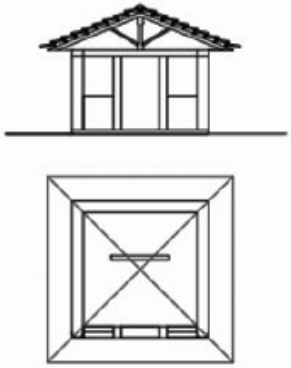


Pedheshwar Mandir *Kelmaya Mandir* *Bhairavnath Mandir* *Kalbhairav Mandir*

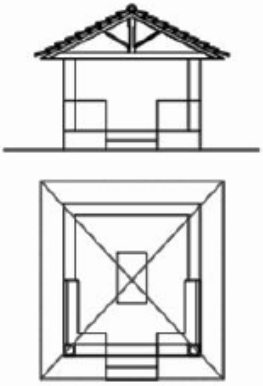




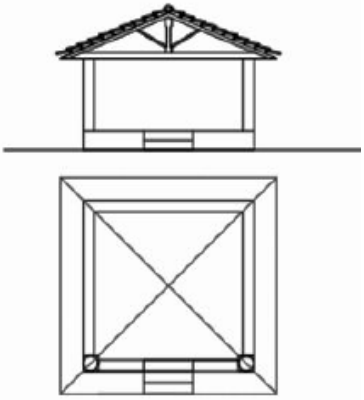
Deepstambha



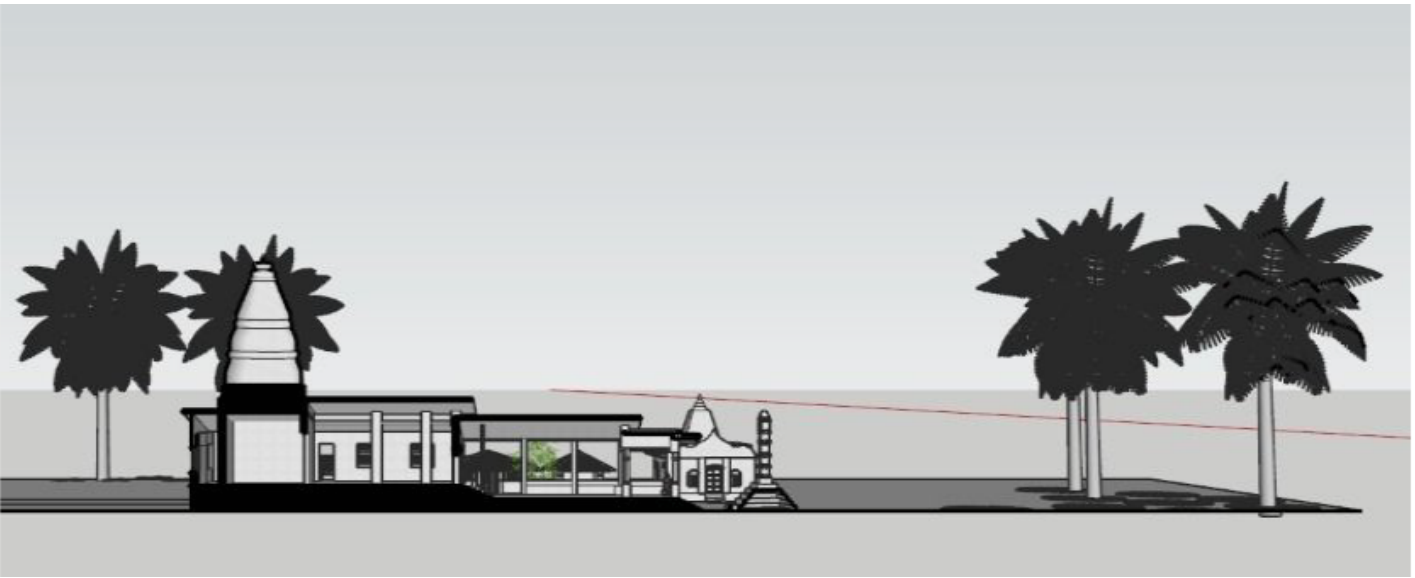
Devmaharanga Mandir



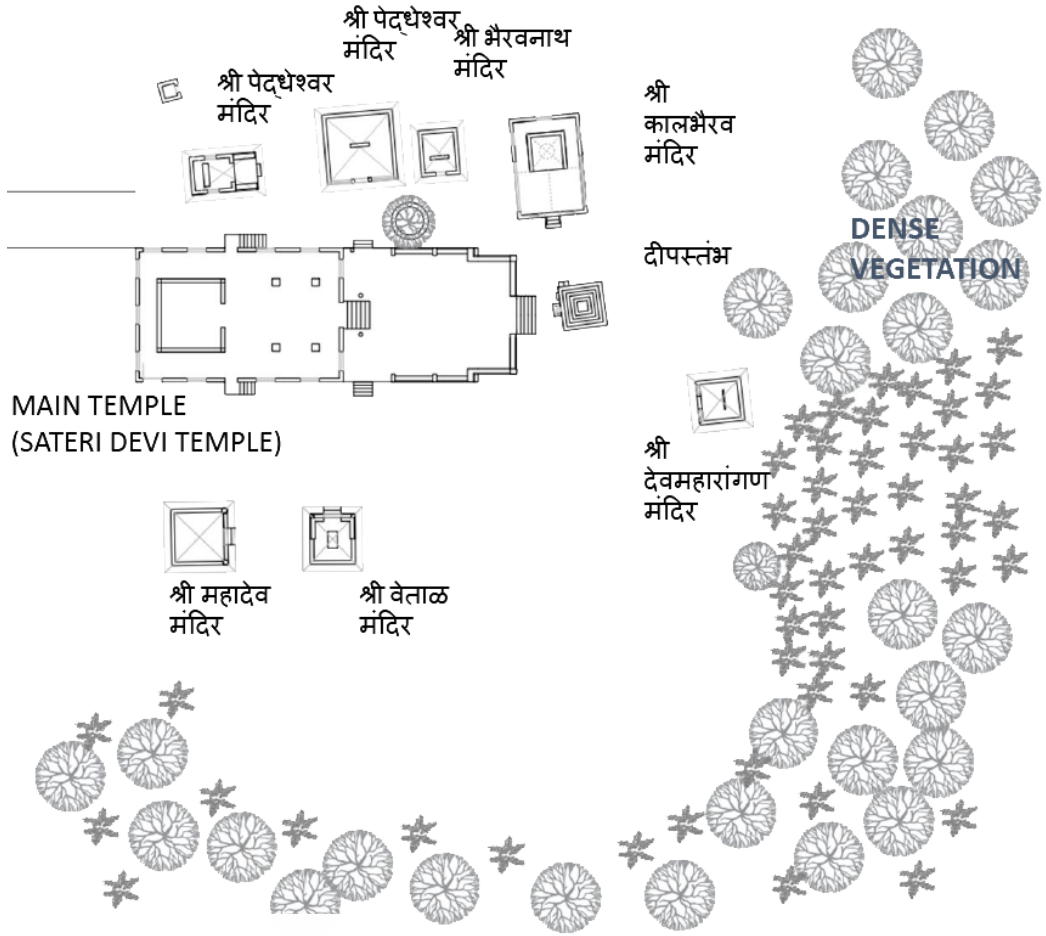
Vetal Mandir



Mahadeo Mandir



Sateri Devi Temple Complex



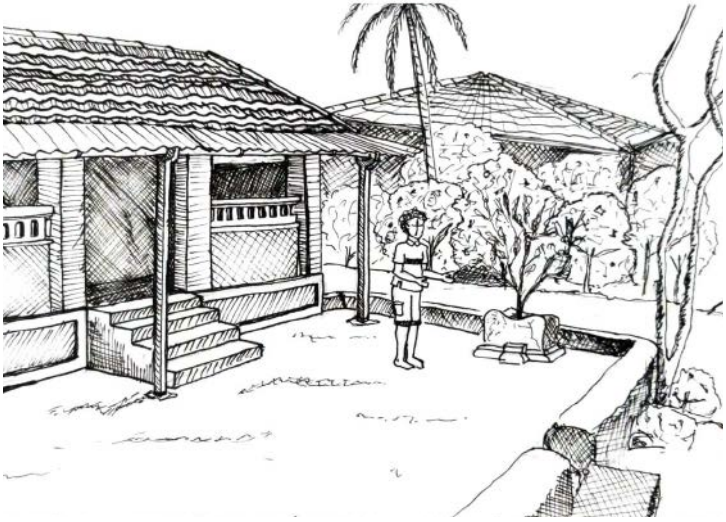
Ground Floor Plan





Documented House

Key Plan







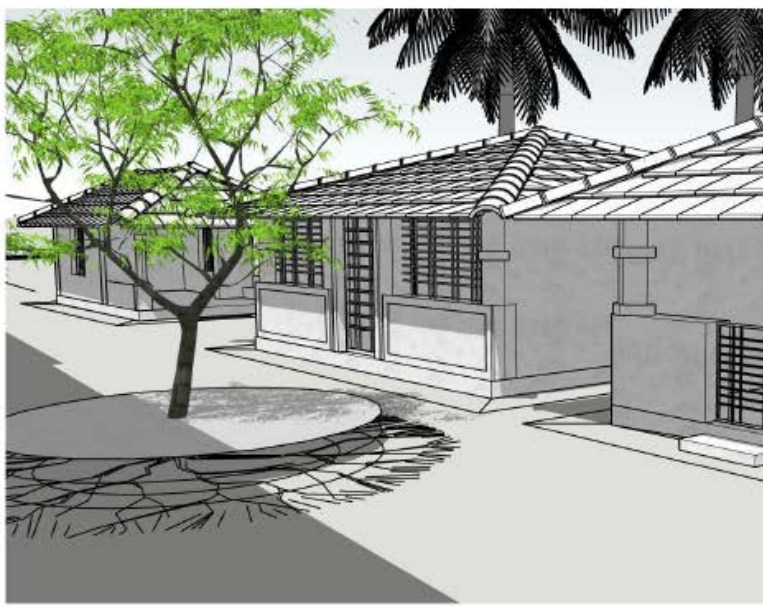


A notable spiritual and cultural center within the cluster.

Sateri Devi Temple Complex



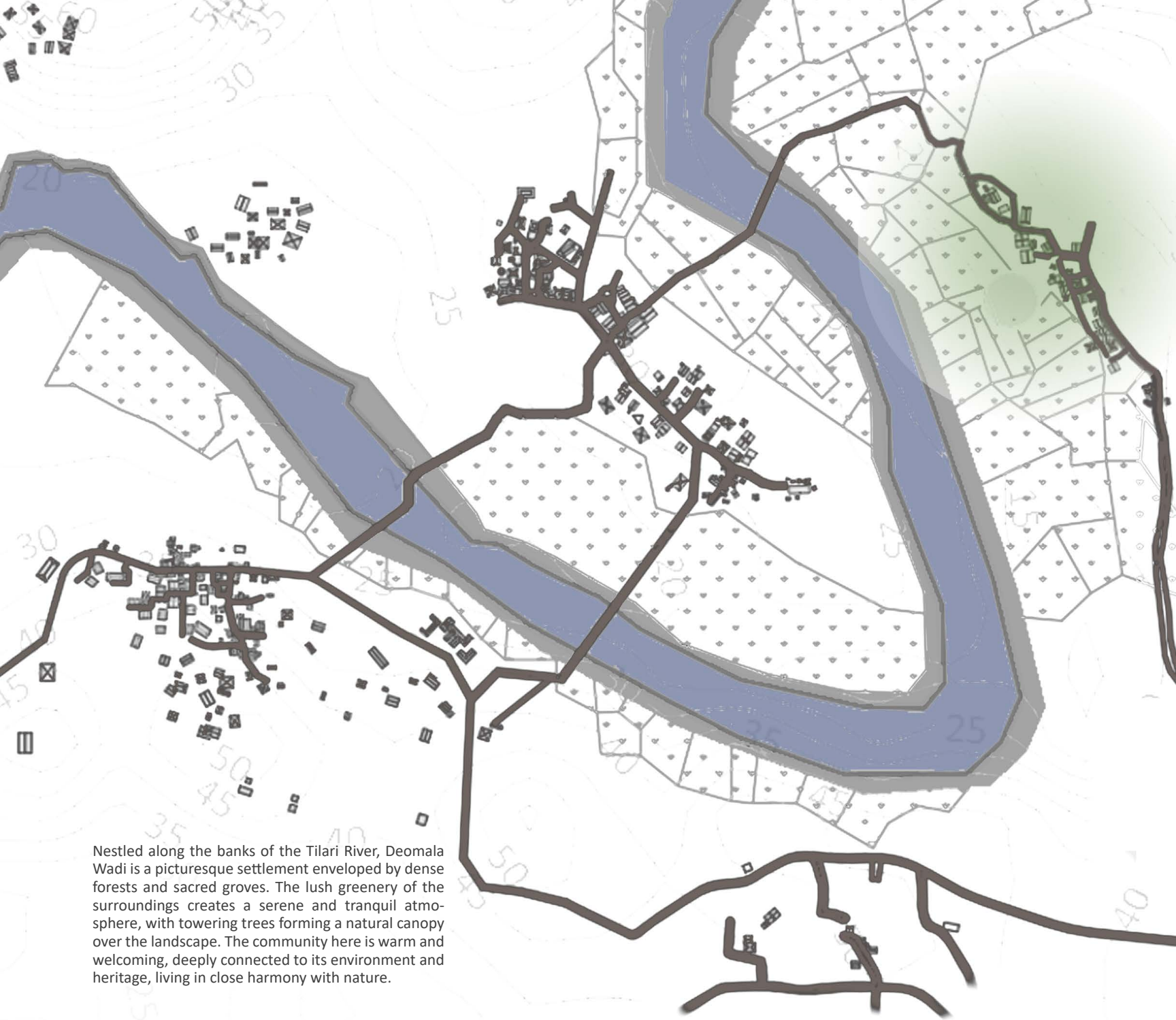






3D Sketchup images by Atharva kulkarni

Deomalawadi



Nestled along the banks of the Tilari River, Deomala Wadi is a picturesque settlement enveloped by dense forests and sacred groves. The lush greenery of the surroundings creates a serene and tranquil atmosphere, with towering trees forming a natural canopy over the landscape. The community here is warm and welcoming, deeply connected to its environment and heritage, living in close harmony with nature.



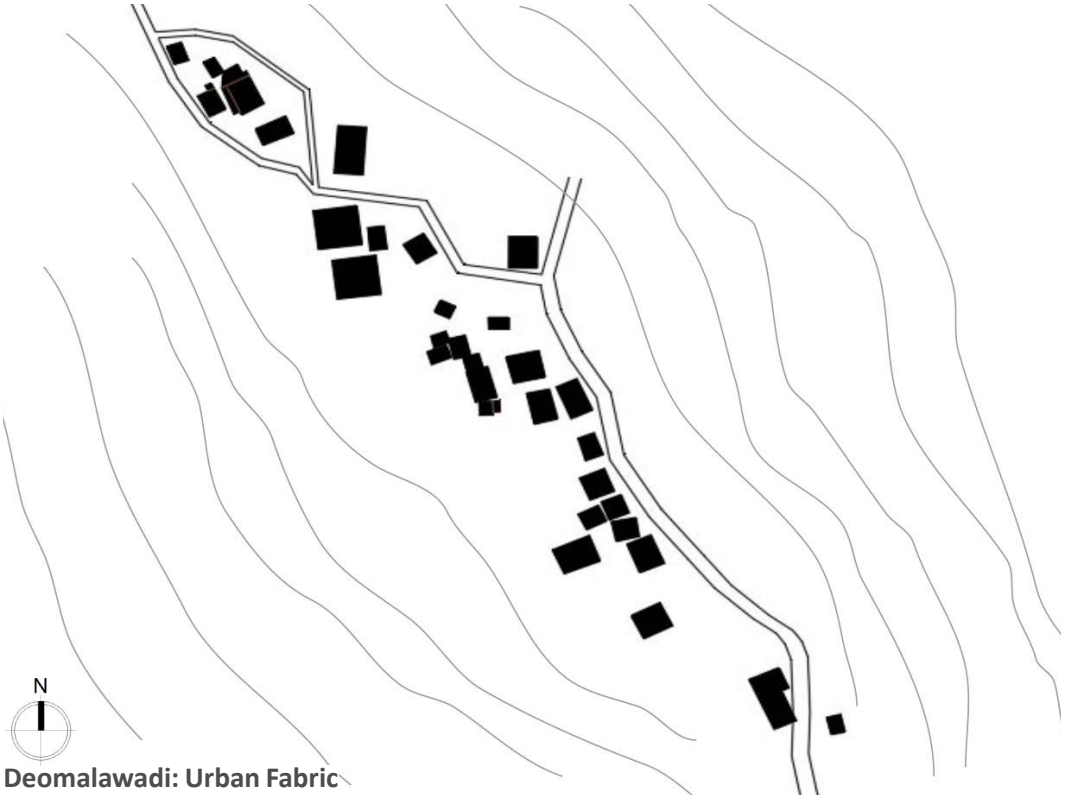
At the heart of the wadi lies a large communal well, which serves as the primary water source for the residents. In addition, a water catchment area to the north further supplements the community's water needs. A seasonal stream meanders near the well, adding to the natural hydrology of the region and providing additional water during the monsoon months.

The dense vegetation in and around the settlement is abundant and diverse. The landscape is dominated by coconut, betel nut, mango, jackfruit, sal, and cashew trees, forming a lush green backdrop to the houses. The presence of Tulsi (Holy Basil) around most homes reflects the spiritual and cultural traditions of the inhabitants. Residents also cultivate small vegetable patches alongside their homes, growing essential crops for their daily needs. Flowering plants such as hibiscus are commonly seen, adding color and vibrancy to the village.

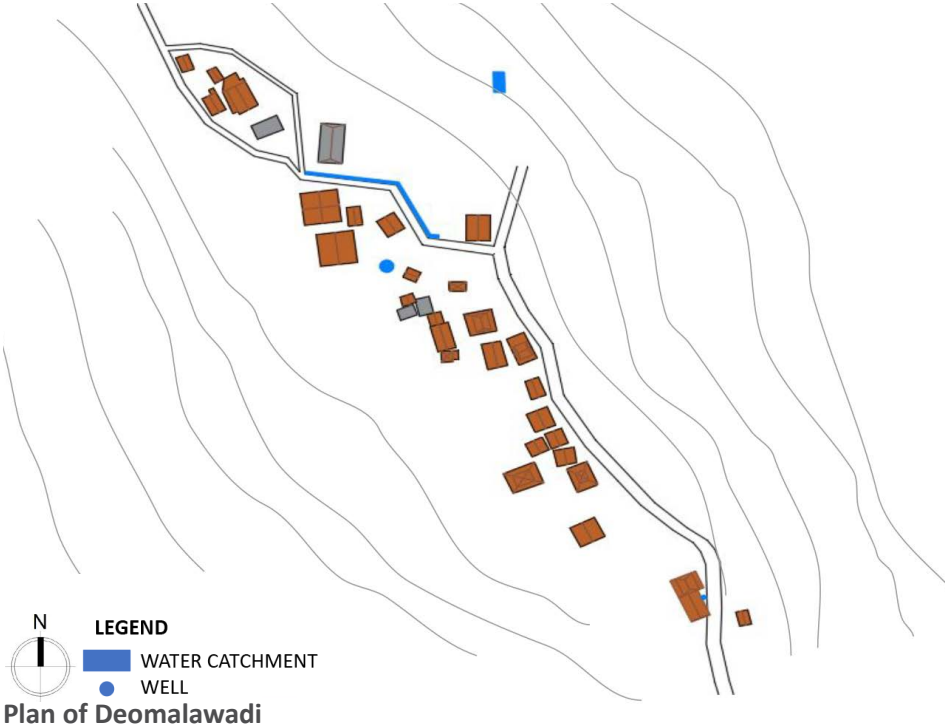
The wadi consists of approximately 25 families, many of whom continue to reside in their ancestral homes. The houses are arranged in close-knit clusters, separated by narrow alleys and small courtyard spaces. These open areas serve as common gathering places where social interactions and community activities take place, reinforcing the strong bonds between neighbors.



SECTION AA



Deomalawadi: Urban Fabric



Plan of Deomalawadi



Building Typologies

Most of the structures are single-story, with attic spaces incorporated for storage. A handful of homes feature an additional floor, which is typically used as extra bedrooms or for storing grains and household goods. The majority of the houses are constructed using traditional materials such as mud and laterite stone, maintaining the authenticity of the region's vernacular architecture. However, newer constructions are beginning to incorporate concrete elements, reflecting a gradual shift in building techniques.

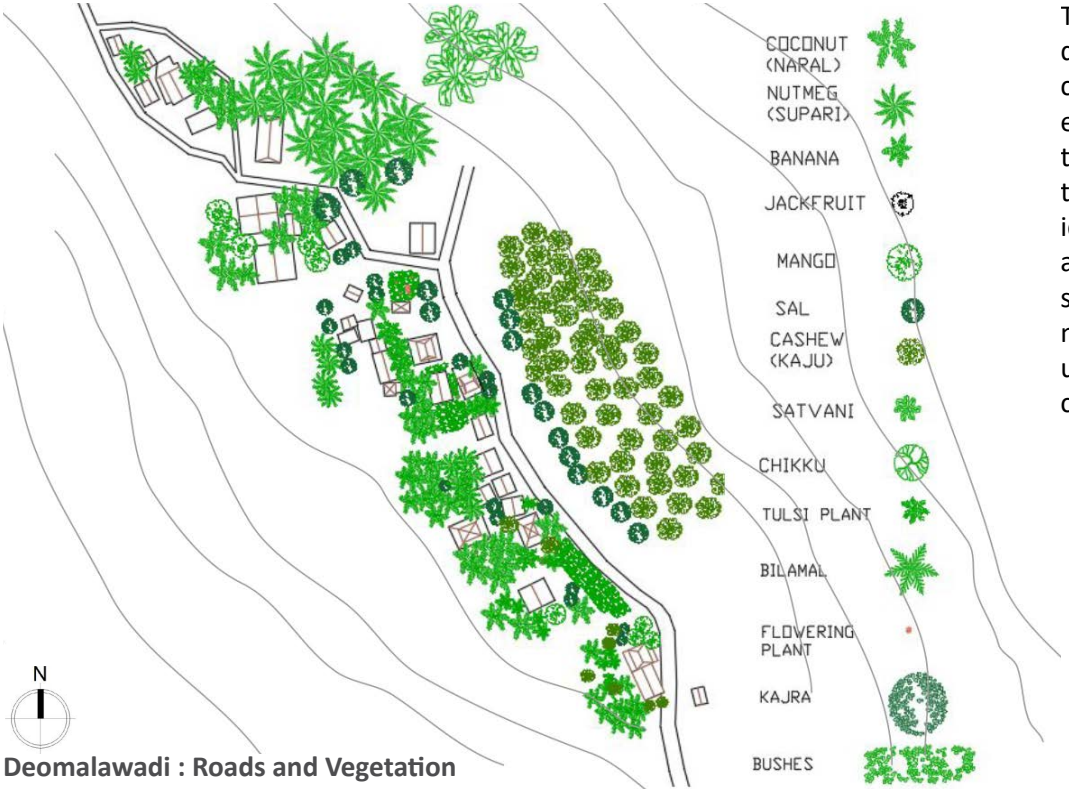


Height of Buildings



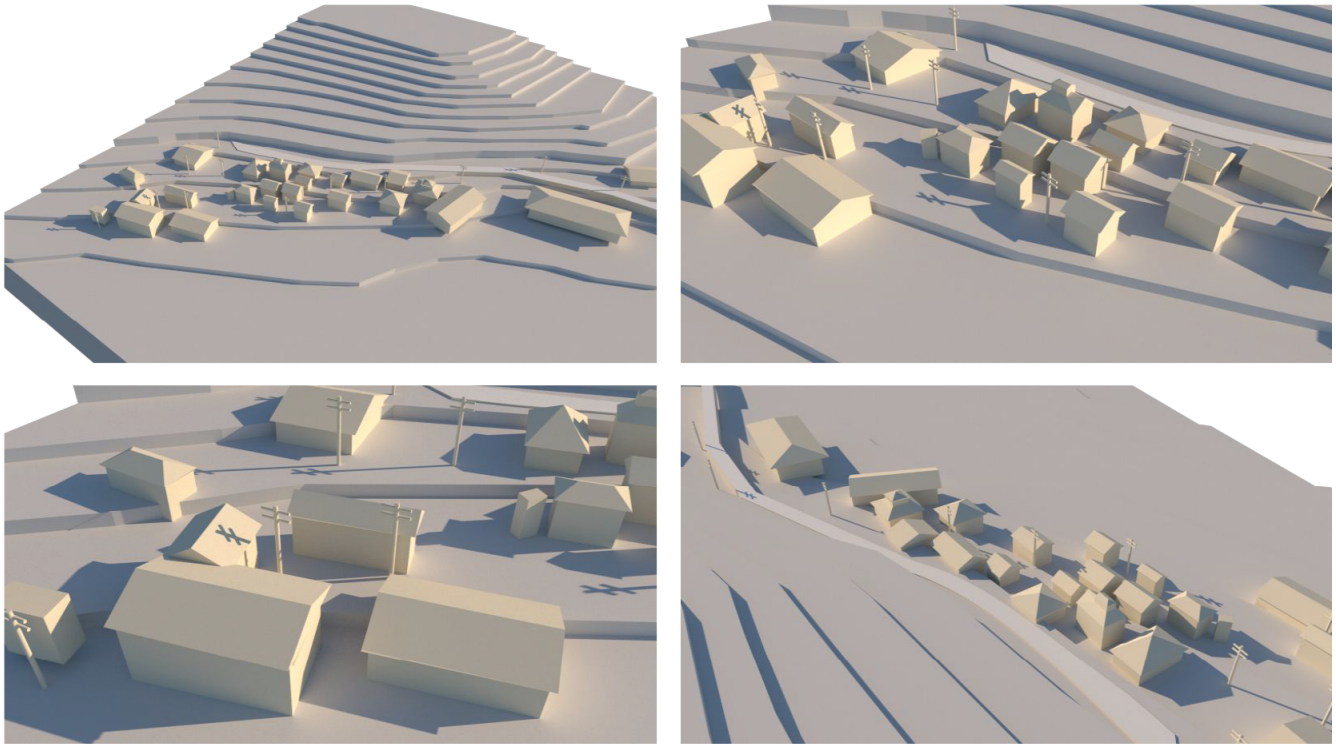
Age of Buildings

The roofs of the houses are steeply sloped and covered with Mangalore tiles, a common feature in traditional coastal and Konkan-style architecture. The homes are built on raised plinths of about 400 to 500 mm, offering protection against moisture and seasonal flooding. Most structures are 60 to 100 years old, showcasing their resilience and the craftsmanship of past generations. However, some of the older homes exhibit visible signs of wear and tear, with cracks in the walls and occasional holes that require maintenance.



Deomalawadi : Roads and Vegetation

The primary occupations of the residents revolve around agriculture and cattle breeding, with many families engaged in traditional farming practices that have been passed down through generations. Apart from residential structures, the wadi also has a small poultry farm, a wood workshop, and an Anganwadi (pre-primary school) that serves as an educational and social hub for young children.

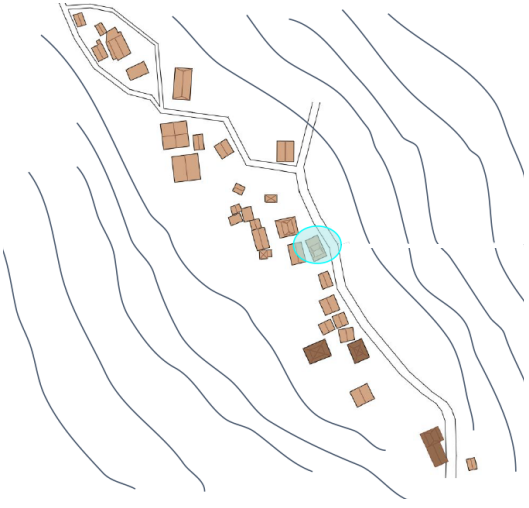




Deomala Wadi stands as a testament to the beauty of traditional rural life, where architecture, community, and nature seamlessly blend to create a harmonious and sustainable environment. The settlement is not just a collection of houses but a living, breathing entity that reflects the deep-rooted traditions, resilience, and close-knit relationships of its people.

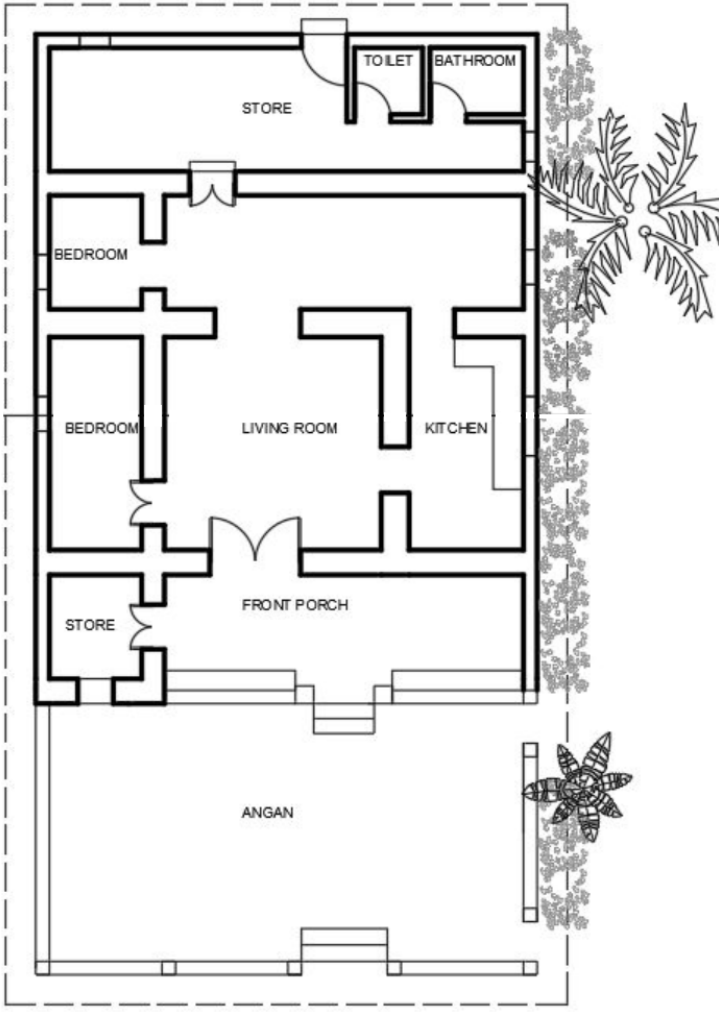
Mr. Desai's House





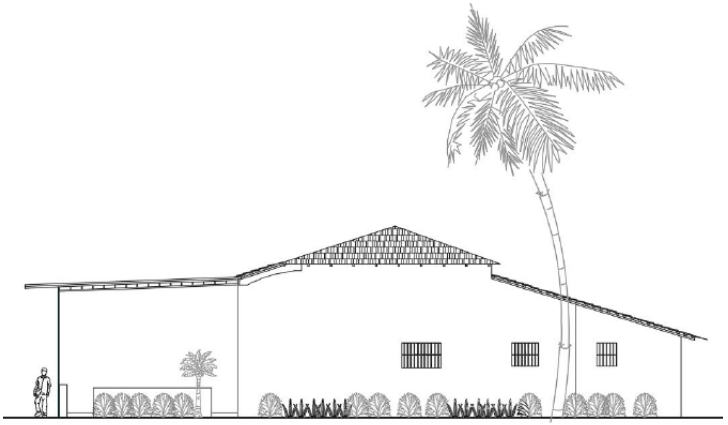
Documented House

Key Plan

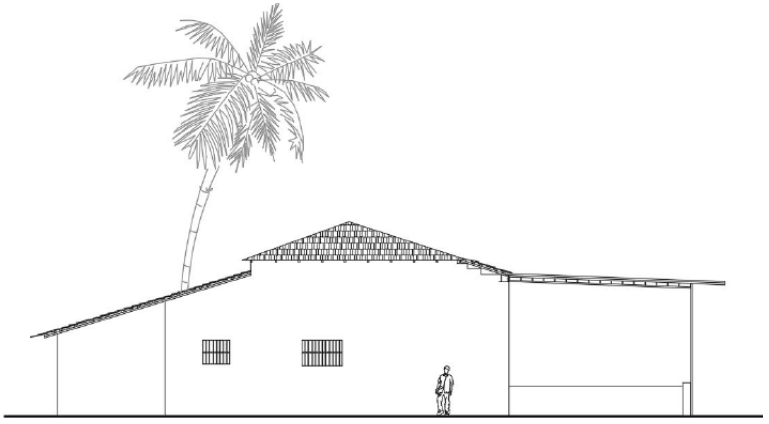


Ground Floor Plan

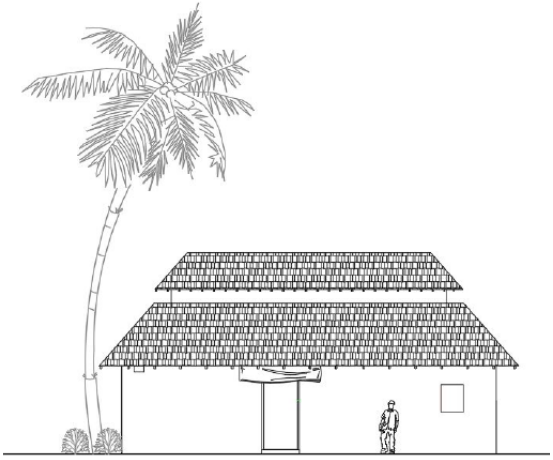




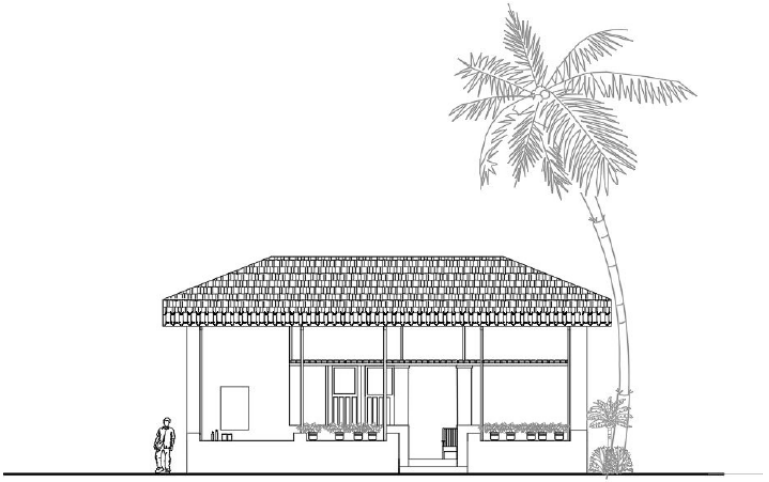
East Elevation



West Elevation

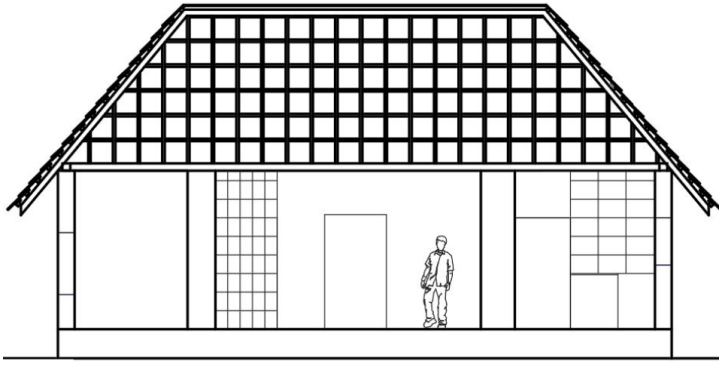


North Elevation

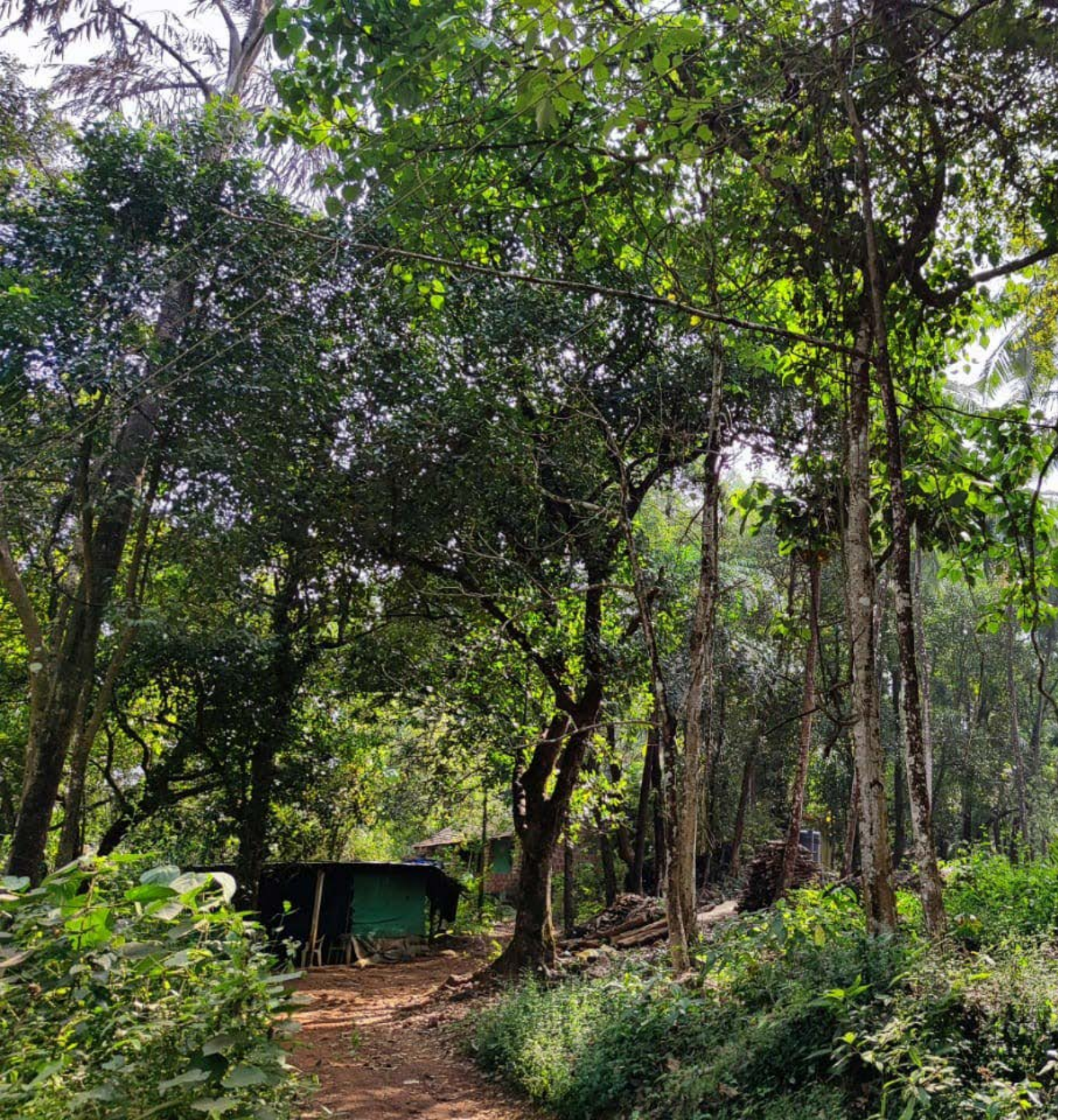


South Elevation

Built 73 years ago, this house was shared by three brothers. Two of the brothers have since left the village, and now only one remains with his family. The family maintains traditional Konkani customs.



Section AA'





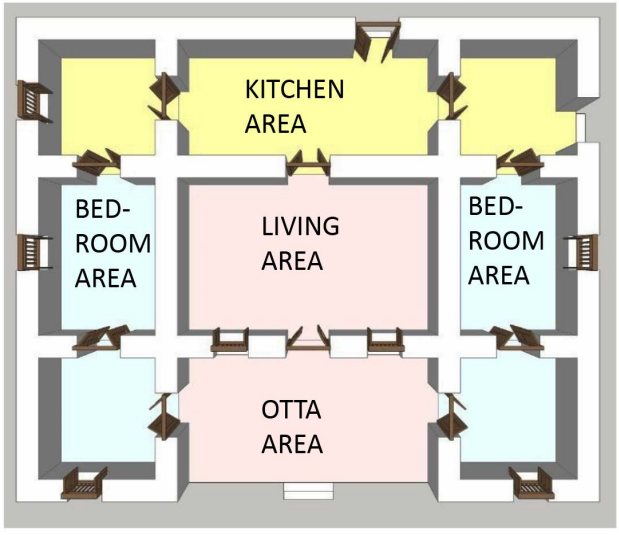
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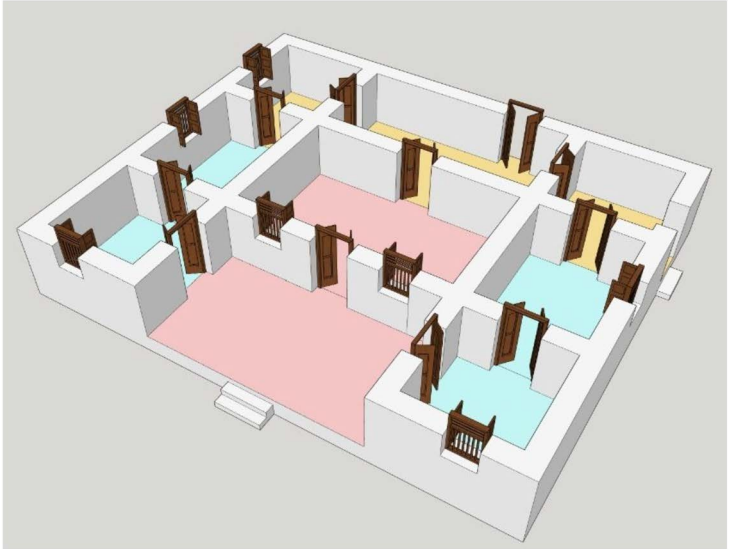
As most of the homes have undergone renovations, only a few remnants of the original mud constructions remain. Some old vernacular mud houses, once sturdy and enduring, now lie in ruins due to neglect after the original owners moved away. Mr. Shelkar, a local, shared insights into the traditional construction methods.

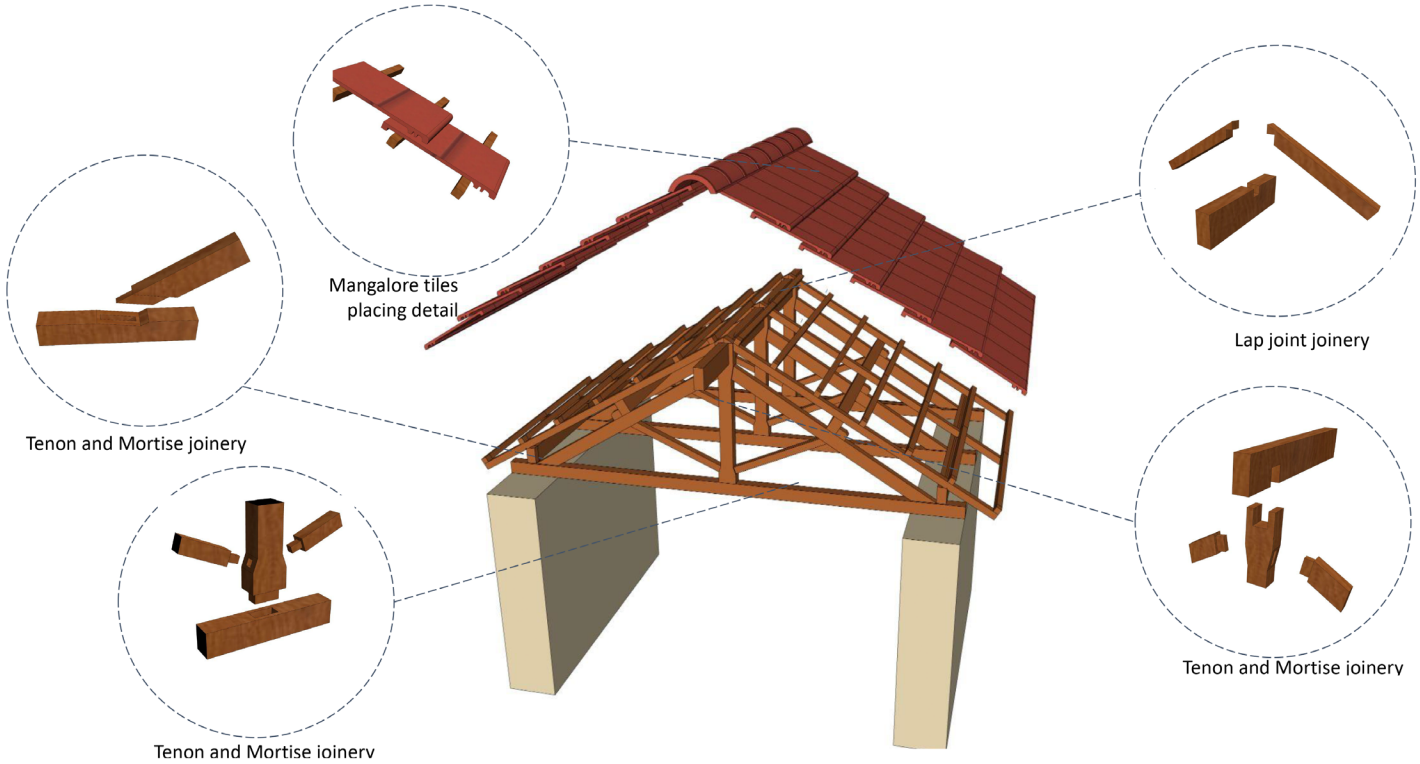
Initially, a plot—preferably square—was selected for construction. Religious ceremonies were conducted, and rice was placed at each of the four corners of the plot for two to three days. If the rice remained undisturbed, construction could proceed; if disturbed, it was considered an omen of bad luck ("bhoot badha"). This practice is no longer strictly followed.

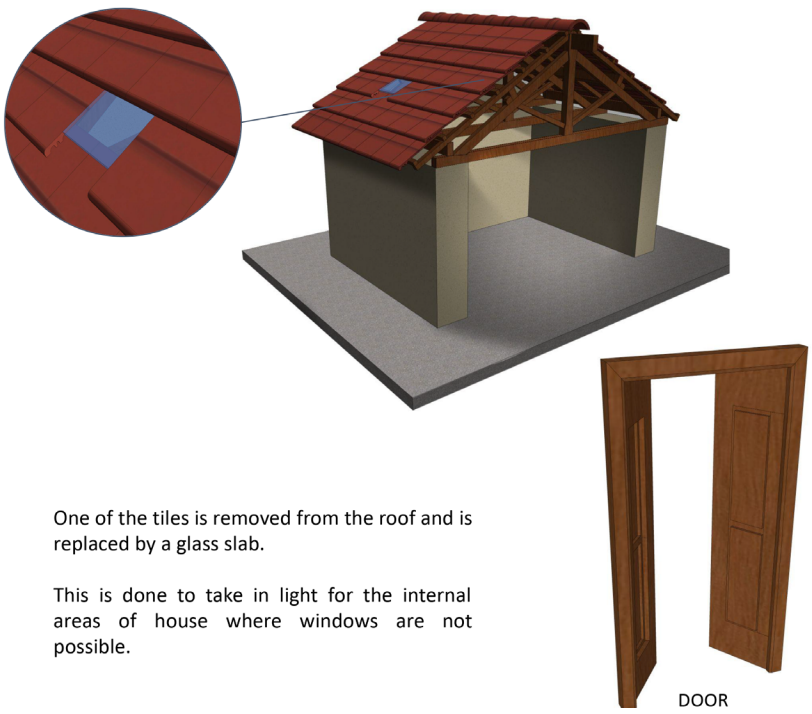
The foundation of the house was laid with a plinth of 100-150 cm, and walls were built in 18-inch intervals. Once the mud in each layer set, another layer would be added, continuing until the wall reached the desired height. The walls, typically about one meter thick, were constructed using a mix of local soil, limestone (chuna), jaggery (gul), and chiri stone, a locally sourced material prized for its thermal properties.







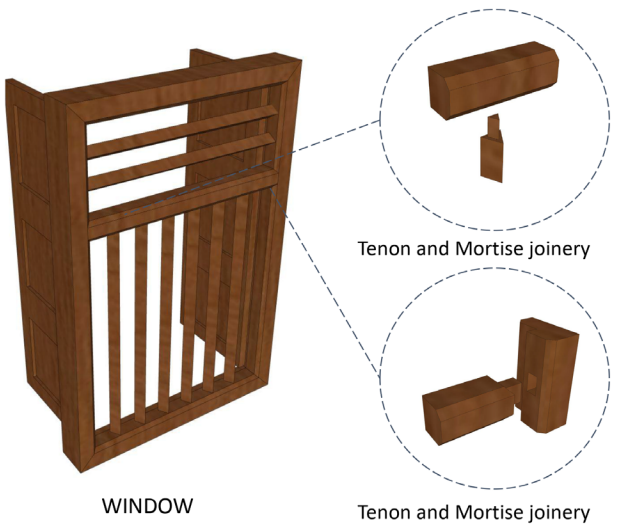


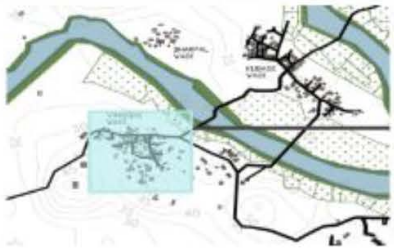
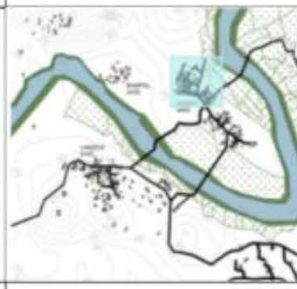
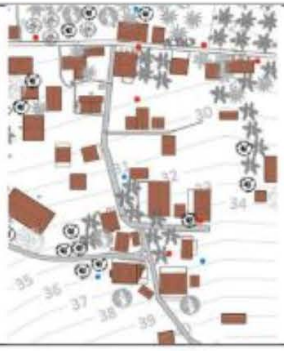
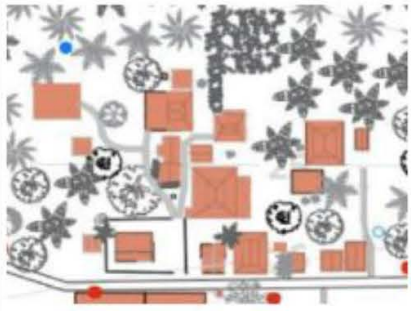
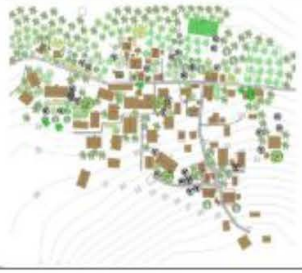
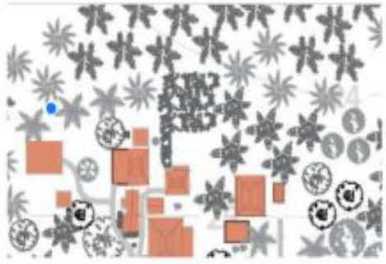


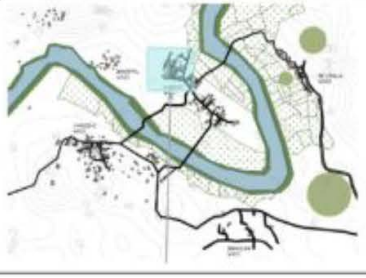
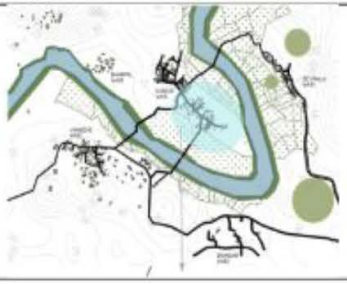
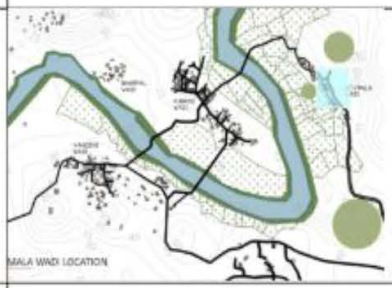
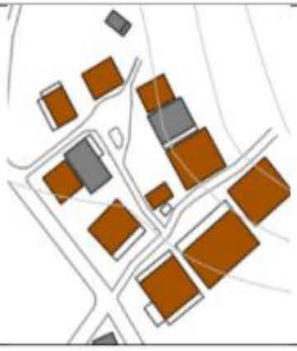
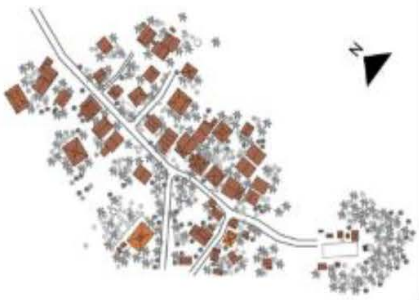
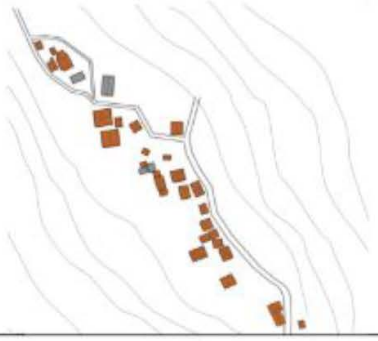
One of the tiles is removed from the roof and is replaced by a glass slab.

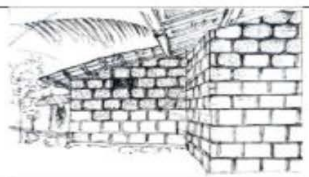
This is done to take in light for the internal areas of house where windows are not possible.

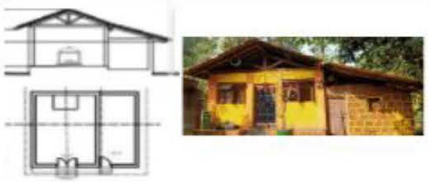
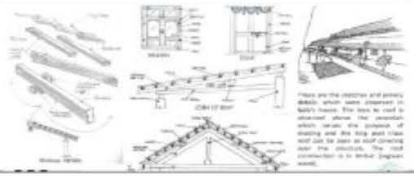
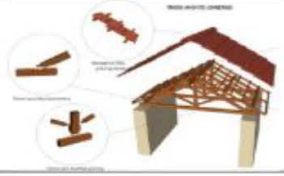
DOOR



	UPPER VANOSHI WADI	LOWER VANOSHI WADI	KUDASE GAVT
LOCATION	On the upper side of the road	adjacent to the tillari river	Upper Left part of settlement Ad
			
CLUSTER OF HOUSES	Malwani brahmin cluster	Christian cluster	Bramhan cl
			
CLUSTER PATTERN	Organic	linear cluster	Organic
VEGETATION	Dense vegetation Types of trees - Coconut, Jackfruit, Jammun, Papaya, bettlenut	moderate vegetation types of trees - Coconut, Jackfruit, Jammun, Papaya, bettlenut	Dense vege Types of trees - Coconut
			

HAN WADI	KUDASE JADHAV WADI	SATERIDEVI TEMPLE	DEOMALA WADI
lacent to Gram panchayat	Upper Part of settlement	Adjacent to tillari river and sateri devi temple	other side of the tillari river and lowest part among all the three settlements
			
uster	schedule tribes	Konkani brahman cluster	Hindus and priests
			
	organic	organic	linear
tation , Nutmeg, Mango	Dense vegetation Types of trees - Coconuts, Nutmeg, Cashew Jackfruit	Dense vegetation nut, cashew, mango, palm, areca nut In the frontyard- tulasi, aloevera, turmeric, mint, amla	dense vegetation: coconut, cashew, banana, hibiscus, jackfruit
			

	UPPER VANOSHI WADI	LOWER VANOSHI WADI	KUDASE GA
BUILT, UNBUILT & INTERIOR SPACES	reas accompany of built spaces . wells ,pathways and vegations consists of s cowshed/cattle shed Interior spaces are closed and semi closed such as verandah (otta) compacted with smaller openings and large overhangs . Exterior spaces are front yard which is used to dry coconut and obtain curd oil ,backyard has semiopen cowshed.	areas accompany of built spaces . wells ,pathways and vegations consists of unbuilt aces . Interior spaces are closed and compacted with openings and large overhangs .	Each and every residential ar planning the houses are of Br so they own their own land so lower in height so it establishe still maintair
		 	
ARCHITECTURAL TYPOLOGIES	Most of the structures are residential with work space included in it	Most of the structures are residential with a sabha mandap as a community space and church as a religious space	Residential Structures with s Verandahs and C
		 	
CONSTRUCTION & MATERIALS	The common materials used are mud, timber, clay tiles and laterite stones	The most common material used is laterite stone along with mud and dung , es are used for roofing . Some of the structures are made of cement and brickwork too	most commonly used material cla
		 	
OUTCOME OF INVENTORIES	Learned about community and culture of vanoshi wadi.got a brief about lifestyle of people residing in vanoshiwad,better understanding of architectural elements, sustainability, vernacular architecture,materials	got a brief idea of the community, culture and residing in the village. better understang of the architecture along with the village context	learned about in what way the community they come togeth about how they have utli architecture, also how they co climate

AVTHAN WADI	KUDASE JADHAV WADI	SATERIDEVI TEMPLE	DEOMALA WADI
eas have the typical vernacular ahmins and maratha community they have compounds but to the d connection with outsiders and the boundary.	Each and every residential areas have a typical vernacular planning with segregation of spaces such as pari baithak kitchen and padvi with temporary shading at the osri thus the houses have no boundaries as they are migrated people their are no fix boundaries this this promotes community living	ical vernacular planning. Houses have a semi-open space (osri) which acts as gathering area. The cluster between the houses and unbuilt spaces have vegetation and pathways.	Typical vernacular planning in every house with a mandatory cattle shed made out of thatch. Every house has an open courtyard in the front of their houses with a tulsi vrindavan.
			
emi-covered spaces in front like Osri with compounds	Residential Structures with semi-covered spaces in front like Verandahs and Osri and one temple building was also seen in jadhavwadi	Residential structures Religious space- Sateri devi temple Educational space- Anganwadi	most of the structures were residential, there were only one or two educational buildings
			
s are Laterite stone, mud, timber, y tiles,	most commonly used materials are Laterite stone, mud, timber, clay tiles,	Mangalore tiles for sloping roof. for trusses ,roof structure, flooring Laterite stone used as main construction material	laterite bricks, cement mortar, timber, thatch
			
ey live their life, learned how as a ner and celebrate. Also learned se the local material into the onstructed their house which are response	It was more abount learning and understanding people their lifestyle their way of living their community and how they have evolved their self with the surrounding and nature	got detail information about culture, community and some historical aspects which helped us to analyse overall settlement.	got to know about the culture, people, history and their stories



Epilogue

Niyati, Poonam & Vaidehi

When we embarked on the collaborative initiative between the West Zone, the National Scientific Committee of Historic Cities, Towns, and Villages, ICOMOS India, and The Brick School of Architecture, Pune, our primary objective was to immerse young architecture students in the intricate process of cultural landscape documentation. However, our aspirations were soon met with an unforeseen challenge—the devastating second wave of the COVID-19 pandemic, which made on-ground studies nearly impossible. Yet, as the adage goes, "necessity is the mother of invention." Determined to adapt, we engaged in extensive brainstorming sessions and dynamic discussions, exploring innovative ways to keep our vision alive. What emerged was a thoughtfully restructured program—a blend of interactive webinars, hands-on workshops, virtual explorations, and eventually, carefully planned on-ground studies and presentations. This transformation not only ensured continuity but also enriched the learning experience, offering students a broader perspective on heritage documentation in the face of adversity.

When we embarked on the collaborative initiative between the West Zone, National Scientific committee of historic cities, towns and villages, ICOMOS India, and the Brick Pune, our goal was to introduce younger architecture students to the nuances of cultural landscape documentation. However, our plans were soon faced with the unprecedented challenges of the COVID-19 pandemic's second wave, which made on-ground studies a significant obstacle. Yet, as the saying goes, "necessity is the mother of invention." After numerous brainstorming sessions and discussions, we successfully transformed our plans into a comprehensive series of webinars, workshops, on-ground studies, and presentations.

The documentation of cultural landscapes is a vital task that requires a multi-faceted approach, particularly in the face of growing threats from climate change, urbanization, and pandemics like COVID-19. To build resilience and ensure the long-term conservation of these invaluable heritage assets, it was imperative to actively engage young minds—especially architecture students—in the meticulous process of cultural landscape documentation. This initiative not only deepened their appreciation for cultural heritage but also cultivated essential skills such as critical thinking, analytical reasoning, and interdisciplinary collaboration. By integrating diverse documentation methods—including written records, photographs, videos, and mapping techniques—we were able to develop a comprehensive and nuanced understanding of the cultural landscapes of Kudase Village, Tillari, and Maharashtra. Moreover, this endeavour transcended student engagement; it became a collective effort that inspired faculty members, domain experts, presenters from diverse fields, and us as coordinators to take an active role in heritage preservation. The initiative fostered a shared sense of ownership and responsibility, reinforcing the idea that safeguarding cultural landscapes is not merely an academic exercise but a collective commitment to preserving our past for future generations.

Moving forward, this initiative can be expanded through the development and implementation of innovative documentation methods and cutting-edge technologies. By incorporating digital tools, GIS mapping, and immersive techniques such as 3D modeling and virtual reality, we can enhance the accuracy and accessibility of cultural landscape documentation. Equally important is the establishment of comprehensive training and capacity-building programs designed to empower young people, particularly architecture students, with the necessary skills and expertise to engage in heritage conservation. Fostering strong collaborations between youth, educational institutions, community organizations, and government agencies will further strengthen these efforts, creating a robust support system for sustainable heritage management. By taking these steps, we can ensure that cultural landscapes are meticulously preserved for future generations, while also equipping aspiring architects with the knowledge and tools to advocate for their conservation. Ultimately, this integrated approach will not only safeguard our rich cultural heritage but also contribute to sustainable development that values and respects the deep-rooted narratives embedded within these landscapes.

We must not forget the village people who despite the challenges posed by the COVID-19 pandemic, demonstrated remarkable resilience and generosity in opening their doors and hearts to students and us interested in architectural documentation. Recognizing the significance of preserving their cultural heritage, many villagers actively participated in discussions, sharing insights into their way of life, their vernacular architecture, and their harmonious coexistence with nature. This exchange provided students with an extraordinary opportunity for immersive, hands-on learning and meaningful cultural engagement. Through a combination of virtual discussions, remote collaborations, and carefully coordinated on-ground fieldwork, students contributed to the documentation of the region's rich architectural heritage—including traditional dwellings, cultural landscapes, and sacred sites. By sharing their lived experiences, oral histories, and indigenous knowledge, the local communities not only enriched the students' learning but also fostered a deeper sense of cross-cultural understanding, mutual respect, and reciprocity.

Today, as we launch this handbook—a testament to the power of collaboration, adaptability, and shared determination—we do not merely conclude a project; rather, we lay the foundation for many more such studies and explorations. This endeavour is a stepping stone toward expanding our collective knowledge bank, ensuring that our cultural heritage continues to be documented, celebrated, and safeguarded for generations to come.

Reviewers Comments



Dr.Neel Kamal Chapagain

I am happy to see the print ready publication from the past few years of collaboration among BRICK School of Architecture, ICOMOS India, and communities across Western Ghats. I have tried to express my impressions in the following three points:

1. An inspiring collaboration: An international association of heritage professionals ICOMOS – particularly the India national committee, has collaborated with an academic institution – in this case, the BRICK School of Architecture to reach out to communities to learn and document their world views on environment as well as their responses on creating habitats, in order to (re)validate some of the latest discourses on heritage conservation, i.e. cultural landscapes and nature-culture linkages. This is a process that should inspire many other ICOMOS national committees to play an active role as professionals. This is a process that must be embedded by academic institutions in their pedagogy and knowledge creation efforts – just like what the BRICK School of Architecture has shown through this project. Within these institutional collaboration, one must also recognise the individual passion and hard work, as demonstrated by not only Vaidehi, Poonam and Niyati, but the entire group of students and other colleagues involved. Kudos to all of them.

2. An engaged and interdisciplinary research and documentation: The processes – particularly the passionate exploration of the landscapes and human interaction with it in the contexts of the Western Ghats, and capturing them in diverse disciplinary themes and varying scales of existence – both in time and space, have dealt with deep research agenda and pedagogical strategies. Since all the individual collaborators are actively and passionately engaged in academics, this should serve as a good model of action research in the fields of architecture and settlement studies, heritage and conservation, as well as planning and sustainable development.

3. Hope for a better future: Drawing upon my awareness of this project through personal interactions with all three key persons (editors and key mentors of the publication) as well as participation in one of the review sessions, I am confident that the impact of this process will go a long way – particularly through the future professionals that we will see out of the cohort of students who were engaged in this. I see a better future through their evolving expertise and sensitivities (through this kind of learning opportunities), and I wish them all the very best.

Thank you.

About Author



Niyati Jigyasu

Niyati Jigyasu is an Architect, presently a professor at the University Institute of Architecture, Chandigarh University. She is an academic with more than 22 years of experience at various institutions including Chandigarh College of Architecture, Chandigarh, UNESCO Category 2 Centre, WWI, Dehradun, INTACH Heritage Academy and the American University of Rome.

Her doctoral research examines the interlinkages and intersections between tangible and intangible attributes in historic areas. She has presented her work at various National and International conferences and authored peer-reviewed articles in various journals and book chapters. She was a selected participant in the international course on 'People-Centred Approach' at ICCROM, Rome in October 2017. She has been a resource person for various projects including the "Sub-regional inception workshop linking world heritage sites and local cultural assets through museums, information centres, and creative industries" held in Malaysia in 2018. She is an advisor for the publication of 'The Baroda Collective, Stage 2: Recording the Historic Urban Landscape' by The Heritage Trust of Baroda in March-April 2023.

She has been the recipient of a research grant from INTACH in 2019 for documentation under 'History, Evolution, and Sustainability of Living Heritage Examining the Traditional Lac craft of Jaipur' and for a white paper, 'Crafts in Urbanism' as part of the Prof. Monideep Chattopadyaya Grant from the DRONAH Foundation for April- June 2023. Her co-editorial book (with Dr. Anjali Sharma), "Intangible Cultural Heritage for Sustainable Conservation of Historic Towns in Asia", is being published by Springer in Dec 2024.

She is co-editor for the book, "Intangible Cultural Heritage for Sustainable Conservation of Historic Towns in Asia", published by Springer. Besides, she is a reviewer for the many Scopus journals including International Journal of Heritage Management and Sustainable Development, Emerald Publishing, Heritage and Society, Taylor and Francis Publishing and City and Built environment, Discover Sustainability and Scientific Reports by Springer Publishing. She is an expert member of the International Committee of Cities, Towns and Villages, ICOMOS, and coordinator for the national committee, ICOMOS India.



Poonam Trambadia

Poonam Trambadia is a renowned Conservation Architect and Associate Professor with a passion for preserving India's rich cultural heritage. With a Bachelor's degree in Architecture from SCET Surat and a Master's degree in Architectural Conservation from SPA Delhi, Poonam has over 15 years of experience in conservation and architectural projects. She founded her firm in 2006, which has worked with various government agencies, private organizations, and international institutions, including the Archaeological Survey of India (ASI), Indian National Trust for Art and Cultural Heritage (INTACH), and World Monument Funds (WMF).

Her research interests include temple architecture, a study on Temple Architecture of Western India with Prof. Adam Hardy from Cardiff University, London. She has co-authored and has published works on urban heritage and governance, as well as the rapidly vanishing Parsee architecture, culture, and heritage. Her firm has also worked on numerous projects, including heritage impact assessments, feasibility studies, and conservation consulting for clients such as the Ministry of Culture, Tourism Corporation of Gujarat Limited (TCGL), and Municipal Corporations of Ahmedabad (AMC) and Rajkot (RMC).

Poonam and Ashish's dedication to conservation and their extensive experience have earned them wide recognition and awards. Some of these include a Certificate of Appreciation from ITC Group (2023), Best Conservation and Architecture Design Firm by Architecture and Interior Design Excellence Awards (2020), and a nomination for NDTV National Awards for Heritage Conservation (2015).

In addition to her practice, Poonam is an Associate Professor at Anant National University, Ahmedabad, and has been involved with academics in architecture since 2008. She also represents the West Zone for ICOMOS India, a position she has held since 2017.



Vaidehi Lavand

Vaidehi Lavand is a conservation architect, and completed her doctorate in architecture from the Università Degli Studi di Palermo in Italy. Studied urban colonial landscape and architecture in Pune as a significant part of her doctoral dissertation. As an academic, researcher, and practitioner trying to explore history, context, people, culture, politics, and societal transformations with built manifestations in the architectural studio.

She has written various research papers on varied topics concerning people's architecture and history. Being a member of ICOMOS India's national scientific committee on Historic towns and Villages, Cultural landscapes, and the expert of the international committee on cultural landscapes currently trying to explore indigenous settlements in the context of natural heritage sites in the west coast of India.

Being a member of the Ecological Society of India deeply researching on nature and its relation with the community. Exploring discourse on sacred groves of western Ghats in Sindhudurg District from a community cultural heritage and collective identity point of view. She is associated with social groups such as Pune collective contributing scholarly discourse on current topics focusing on marginalized communities in society.

Visited numerous sites and historic settlements in India and overseas during the research which has enriched her as a designer and a resource in the field of Heritage practices. Her passions include exploring many art forms, particularly music and the visual arts. Avid trekker and enjoy being in harmony with nature, completed many expeditions in wildlife, forts and indigenous settlements. She believes that architectural studios cannot be taught without knowing the history of the place and social context with a people-centric approach. To be a sympathetic designer, she believes, one should be more tolerant and respect pluralism.



Vaishali Prasad Latkar

Vaishali Latkar is an academician and practicing Conservation Architect based in Pune.
Presently she teaches at Dr. Bhanuben Nanavati College of Architecture for Women, Pune. She also heads the Center for Cultural Studies at BNCA.She has completed a Doctorate in architecture with focus on built heritage of pilgrimage townsfrom Savitribai Phule Pune University.She is Vice President (Asia) of CIF, International Committee of Education and Training ofICOMOS.She is coordinating Training Committee of ICOMOS India. As the Coordinator of NSC Educationand Training Committee, she has initiated awareness, capacity building programs for different groups.She is a member of the Executive Committee, INTACH Pune Chapter.She is a recipient of the Best Teacher Award for Humanities by Maharashtra Association ofSchools of Architecture in 2021 and had been felicitated by IIA, Pune in 2018 on Teachers Day.Earlier she headed the department of M. Arch in Architectural Conservation at Sinhgad College Of Architecture, Pune from the inception of the course in 2006 to March 2022.She is a former member of the Board of Studies in Architecture at Savitribai Phule PuneUniversity.
She is a practicing conservation architect and has worked on various conservation projects for the State Archaeology Department, INTACH Delhi, INTACH Pune, Pune Municipal Corporationand private clients.She was a former member of a few Heritage committees constituted by authorities.She has been conducting Training programmes in Heritage conservation as well as HeritageAwareness Programmes for various types of groups.
Vaishali has written widely and has presented in many national and international conferences.



Girish A. Punjabi

Girish Punjabi is a Conservation Biologist at the Wildlife Conservation Trust and a member of the IUCN's Dhole Working Group. With a background in wildlife biology, Girish has focused his research on endangered species such as the dhole, tiger, and leopard, among other carnivores, in India's natural landscapes. He is dedicated to preserving India's remaining wildlife habitats and has contributed to the conservation of the Western Ghats through his research and advocacy. His scientific publications can be accessed here.



Saili Palande Datar

Saili Palande Datar is currently working as Principal Investigator for Imagining futures Project "Eco-cultural aspects of Lateritic plateaus(Sadas)in Central Konkan" and Research Fellow at University of Exeter, UK. She is member of the Editorial board of Maharashtra State Gazetteer Committee and is contributing to Sindhudurg District Gazetteer. She has been working in Sindhudurg region for last 20 years studying the ecological, archaeological & living cultural aspects of the region. She is member of Western region of ICOMOS India and part of NSCFort Scientific committee.

Saili has a degree in Electronic Engineering after which she pursued postgraduate studies in Indology, and Environment Conservation & Natural Resource Management. Following her interests, she has training in history, Art, Archaeology & bio sciences through various short courses. She is interested in applying interdisciplinary approach to real life issues concerning environment and culture. Till date, she has worked on nine Research projects in collaboration with various organisations and has experience of 17 years.

She has presented 33 Research papers in national and international conferences on history, art, archaeology, Cultural studies and Environment. She is founder Director of Heritage Insights, and trustee at Samvidya Institute of Cultural Studies. She serves as Vice President, Malabar nature Conservation Club and member at Kalpavriksh Environmental Action Group working on Biodiversity Conservation and Policy issu



GSV Suryanarayana Murthy

practicing Conservation Architect is currently working as Professor of Architecture in JBR College of Architecture, Hyderabad . He is an Independent Consultant in the field of Architecture, Conservation, Planning, and Urban Design. He is proprietor of organizations namely KSHETRA and IHSRDM.
He is currently South Zone Represeentative of ICOMOS India. He is also CoCoordinator of NSC on Cultural Landscapes of ICOMOS India.Published several papers in the area of Traditional Architecture, Conservation in National and International magazines, Journals and News papers.Recently in July 2021 under his leadership has got the recognition of UNESCO World Heritage Site status for Kakatiya Rudreshwara (Ramappa) Temple, Palampet, Telangana, India.



Onkar Lhebudkar

He is a landscape architect. He is affiliated as an associate professor at Smt. Kashibai Navale college of Architecture, Pune. He is academician and practicing landscape architect since last 18 years.
His interest areas are theatre, film and ecology. His interest in environment and ecology lead him studying Tillari region for his masters thesis. Where he has mapped conflict areas between human and wildlife around the settlements in and around Tillari conservation reserve.



Saranya Dharshini

Saranya is a Conservation Architect with 14 years of extensive experience in India and the UK. She specialises in creative, people-centered conservation strategies and traditional practices, successfully leading multidisciplinary teams to deliver complex global heritage projects.A two-time recipient of the UNESCO Asia-Pacific Cultural Conservation Award, Saranya is deeply involved in teaching, research, and advocacy. She leads the Heritage and Gender Task Team for ICOMOS International—a joint initiative of the UN Agenda Sustainable Development Goals Working Group and the Rights-Based Approaches Working Group. Additionally, she serves as a Board Trustee of ICOMOS-UK and as Vice-President for the Europe Region of the International Scientific Committee on Water and Heritage, alongside being a full member of IHBC UK.An accomplished researcher and educator, Saranya has produced influential work on UNESCO sites, sustainable practices, gendered heritage and water heritage. She lectures at the Universities of Mumbai, Manchester, York, and Lincoln and contributes to research through prestigious fellowships.



Vinita Lulla

Vinita Lulla is a visionary in sustainable architecture, seamlessly blending creativity, aesthetics, and technical expertise to shape innovative built environments. With a Master's degree in Environmental Architecture, she specializes in integrating sustainability into design, ensuring every project is both forward-thinking and environmentally responsible.With over five years of experience in architecture, interior design, and green building consultancy, Vinita has worked extensively on diverse projects, from large-scale developments to intricate design interventions. As an environmental consultant at a leading firm in Pune, she has tackled complex sustainability challenges, refining strategies that enhance both functionality and ecological balance.Beyond her professional practice, Vinita actively pioneers sustainable solutions. Her development of a domestic hydroponics module exemplifies her commitment to integrating cutting-edge, eco-friendly technologies into everyday life.An influential academic, Vinita has been an integral part of SMEF's Brick School of Architecture since 2021. Leading the competition portfolio, she has mentored students to achieve national recognition, fostering a culture of innovation and excellence.

Through her work, Vinita remains dedicated to redefining architectural discourse—merging sustainability, design, and environmental stewardship to create spaces that respect and respond to the natural world.



Ramiya Gopalakrishnan

Ramiya Gopalakrishnan is a Conservation Architect . She is also associated with SMEF's Brick School of Architecture since 2019. Her professional experience ranges from projects like mixed-use developments, military camps, hospitals, university projects, etc. Her interest in history and heritage encouraged her to get into the field of teaching and also take up conservation.



Raman Kulkarni

Mr. Raman Kulkarni is Honorary Wildlife Warden, Kolhapur.
He is a commercial artist specializing in Photography from Kalaniketan Mahavidyalay, Kolhapur. He is the director of Pugmark Art Gallery, Commercial Advertiser, Wildlife Photographer, and Eco-tour Organiser. He has worked on various scientific studies and explorations in the Western Ghats region of Maharashtra and Goa. Organized Workshops on Birds and Herpetofauna with BNHS expertise. Worked on many wildlife research projects with different government and non-government agencies. He has prepared checklists of birds, butterflies, Snakes, and Mammals in Reserve Forests and Wildlife Sanctuaries of Kolhapur District with Local NGO Green Guards. He has authored books such as Biodiversity of GOA – A Concise Field Guide and Biodiversity of Sahyadri Tiger Reserve, a field guide.

Student Participants

Tejas Patil
Naval Tambulkar
Gaurav Kankekar
Atharv Desai
Harshraj Salunkhe
Pranjal Vyas
Sakshi Wath
Anushka Pansare
Bhumika Shinde
Komal kumbhar
Rutuja Girame
Shreya Dhargave
Aditya Kangankar
Shivcharan Deshmukh
Anish Sheth
Sanika hirve
Aayush kapade
Anunaad more
Dhruti Muzumdar
Isha joshi
Janki joshi
Komal karale
Om Pawar
Sucheta badadhe
Tanvi loyare
Vedant joshi
Yash pachkawade
Heet Sanghvi
Gaurav Bhansali
Ansh Kadam
Vaishnavi Magdum
Ishwari Patil
Nidhi pagariya
Sejal Chordiya
Gauri Mahajan
Vedanti Pawar
Rutuja Rodge
Jayesh Khaire
Aishwarya Prasad
Pratham Behede
Atharva Kulkarni
Vaishnavi Parihar
Kaustubh Someshetti
Tawlha Skaikh
Abhay Khele
Rohit Pokharna
Onkar jadhav
Mansi Shitole
Rachna Hedgire
Sakshi Talankar
Surbhi Khivansara
Harshita Grandhi
Om Deore
Vaishnavi Chorghe
Samruddhi Uttekar
Meera Ingawale
Akshada Naik
Ananya Tambe
Ankita londhe
Yadnika Barde
Srushti Jadhav
Neha kadam
Swagat tupe
Dhananjay tapkir
Supriya Kamble
Prajwal Gawande
Aditi landge
Shrigandh malvade
Mayur Pandey
Madhura chavan
Keyur degwekar
Ajay khairnar
Suyash meshram

Mohit Rasane
Riddhi Salve
Anushka Sawant
Pranjal vyas
Sakshi Shinde





We would like to express our sincere gratitude to ICOMOS India for providing us with the opportunity to curate and work on this initiative, as well as for facilitating meaningful engagement with experts from the field. We extend our heartfelt thanks to Dr. Navin Piplani, former President of ICOMOS India, and to the heads of NSC ET, NSC HCTV, and NSC CLC for their unwavering support in the execution of this initiative. We are also deeply grateful to Dr. Rima Hooja, President, and Ms. Shalini Dasgupta, Vice President, ICOMOS India. This publication would not have been possible without their guidance, assistance, and contributions at various stages of its development.

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