

# Cultural Landscape and Identity of Human Settlement; A case of Apatani Community in Ziro valley of Arunachal Pradesh

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**Abstract**— *Our land use patterns, safety procedures, behavioural approaches, and human character are all shaped by the landscape, which also serves as a link to our historical values and aesthetics. The way that people and the environment interact creates a cultural landscape. Any region's human settlement can be critically analysed to better understand the phenomenon of the cultural landscape. The growth and development of the society residing in a region is greatly influenced by its historical background. Through an analysis of the Apatani cultural landscape in Ziro Valley, Arunachal Pradesh, India, the research investigates a number of cultural landscape facets. The study also examines the sense of place through the lens of the cultural landscape and settlement identity, drawing on the landscape concept of "genius loci," which describes a place's unique atmosphere. The study makes it clear that landscape values are not just associated with tangible objects. The identity of a settlement, the transformation of the cultural landscape, and the identity of the landscape—which were essentially formed in the past—are all significantly influenced by the landscape's ability to connect the past and the future. These processes are ongoing today and will continue into the future. The cultural landscape tells the story of the people who have shaped it to fit their needs both historically and currently.*

**Keywords**— *Cultural Landscape, Aesthetics, Behavioral approach, Land use pattern, Sense of place, Genius loci, Settlement ide, Human settlement, Landscape Identity, Tradition, Apatani cultural landscape, Ziro Valley, Arunachal Pradesh*

## 1. INTRODUCTION

The landscape revolves around the interaction between people and place. It provides the setting for our everyday existence. The phrase is not limited to particular or designated landscapes, nor is it limited to rural areas. A small area of urban wasteland, a mountain range, an urban park, or a vast lowland plain can all be considered a landscape. According to one definition, landscape is the context—a part of our lives—that we are not fully

conscious of. As a physical entity, territory refers to the physical area inhabited by humans. It is the portion of the earth that we claim as our own, and to which we have historically assigned various purposes. It describes the interaction between members of a particular social group and their immediate environment, or the time and place in which they reside. The European tradition of landscape painting gave rise to the concept of the cultural landscape. A complex cultural mosaic is referred to as the "Cultural Landscape" in India (Singh, 2017).

The term "culture" refers to the common characteristics of daily life that people in a place or period of time share. A group of people's way of life, including their habits and the behaviors they have acquired and passed down through the generations, is referred to as their culture. It shows up in the ways that people behave, view and utilize their resources, and take care of their land. A cultural landscape is an area that combines elements of human and natural creation. A cultural landscape is the product of the natural environment acting as the medium and culture acting as the agent. It conveys both the relationship between people and their surroundings as well as the existence of intangible cultural values. The goal of developing landscape science was to comprehend and interpret how humans interact with the natural world. Nowadays, the social and cultural dynamics of everyday life are connected to the idea of landscape (Enache & Craciun, 2013). The dynamic interplay of natural and cultural forces in the surroundings causes landscapes to change. People frequently use the term "landscape" to describe a particular scene or occasion (Türkyılmaz, 2016).

Antrop (2005) describes the term "cultural landscape" as encompassing a broad spectrum of human interactions with their natural surroundings. Cultural landscapes help us comprehend our relationship with the land and give us a sense of place and identity. It is the combination of natural and human resources. A cultural landscape is the result of numerous decisions made while taking into account a precise selection model, leading to the appearance of a specific cultural area (Alvarez Munarriz, 2011). They are the tangible representation of the shapes and images that are a part of many human behavior decisions, selections, and preferences.

Anthropological study centers on the symbolic meaning that individuals ascribe to their surroundings, which can be viewed as the mental map they employ on a daily basis. By at least 3000 B.C., the Harappan complex—the first settlement—appeared. The pre-Harappan people had already cultivated wheat and barley and had advanced cropping strategies and agricultural implements before then. Families that hunted and collected food for subsistence made up the earliest human settlements.

### 1.1 Sense of Place

A person's relationship with their environment, as conveyed through a variety of life experiences, emotions, biographies, stories, and imagination, is generally referred to as their sense of place (Johnson & Basso, 1998). According to Kudryavtsev, Stedman, and Krasny (2012), sense of place—the way we understand a place—involves place attachment and place meaning. While place meaning reflects the symbolic meanings that people assign to locations, place attachment reflects the relationship that people have with their surroundings. A sense of place can be defined as the prism through which individuals perceive and understand their interactions with and within their environment (Adams, 2013). A person's sense of place changes throughout their lifetime, historically, and from person to person. Depending on a place's ecological, social, economic, cultural, artistic, historical, or other features, people may give it different meanings. People's sense of place, which determines how they view, understand, and engage with their surroundings, is shaped by their personal experiences (Russ et al., 2015). A sense of place in cities is shaped by global mobility, migration, and the erasure of natural boundaries. It echoes the intersections of culture, environment, history, politics, and economy (Jain, Daksh, 2023).



**Fig -1:** Villages at Ziro have shifted from thatched roofs to those made of tin. The influx of outsiders is beginning to show in their architecture.(Source : indiahikes)

### 1.2 Bhimbetka

These paintings date back approximately 30,000 years. Long ago, humans inhabited rock shelters. Bhimbetka is a gift from our ancestors because of the abundant flora and fauna that surround these. A treasure of the archaeological world, Bhimbetka has about 243 rock shelters. These rock shelter engravings bear similarities to the Upper Palaeolithic Lascaux cave paintings in France, the Bushmen cave paintings in the Kalahari Desert, and the engravings found in Australia's Kakadu National Park. Taking a walk around these old, naturally-cut rocks amid the verdant Bhimbetka forests will transport you back to your early years of wonder. UNESCO has named Bhimbetka a World Heritage Site. It got that title because it is home to an amazing collection of prehistoric cave paintings made by humans. The peculiarly shaped rock formations that served as man's magnificent canvas for artistic expression are the inspiration for these paintings. From a distance, these rock formations on the hilltop they stand on resemble a small fortress. They rise almost 100 meters above the surrounding area. After years of intense chemical and physical weathering by natural elements, they take on the strangest possible shape. The flat surfaces of these rock formations served as an easel for man's artistic endeavors, while the caves and potholes in the rocks offered a place of safety for him.

### 2. Study area

The Apatani community, one of Arunachal Pradesh's major tribes, lives in Ziro Valley. It is well-known for its gentle pine-clad hills on the fringes of an integrated rice and fish farming system. The river Kele divides the valley

into Kamla and Khru on the north and Palin on the south (Tangjang, 2016). According to Zakaria, Salleh, and Rashid (2014), the term "cultural landscape" can also refer to a region's identity, culture, social life, and local economy in addition to its degree of development and sophistication.

Fish is a staple food for Apatani people and is eaten every day. Their cultivation requires a lot of labor. In January and February, dykes with bamboo screens to stop fish loss and inlets and outlets for irrigation water are constructed alongside the permanent terraced fields. Small irrigation dams are built into each plot and placed in various locations to control irrigation water in the corresponding agricultural fields. The water flow through man-made channels is regulated by the locals to prevent obstructions. In April and May, common carp fish are raised in paddy fields alongside rice seedlings. They consume water plants and forage in the field for worms and insects. The fish are sold at the neighborhood market after three to four months. The fertility of the soil in the rice fields and gardens of Apatani remains intact throughout the monsoon season in Ziro Valley, leading to bountiful harvests. In Ziro, wet rice cultivation was made feasible by the man-made irrigation channels constructed from local water streams. This is made possible by the efficient preservation of the surrounding forests in the valley. Cultural landscape refers to a landscape that has been altered by man as a result of civilizational development. Cultural landscapes are ephemeral and highly dynamic systems (Myga-Piątek, 2012).



**Fig -2:** A view of Apatani cultural landscape - wet rice field  
(Source : discoverneindia.apatani-cultural-landscape)

The Apatanis are renowned for their experimentally evolved, sane use of the scarce land. There are distinct areas for human settlements, wet and dry rice farming, communal cemeteries, pine and bamboo gardens, private plantations, and communal forests. It is a prime example of how humans have successfully adapted to the demands and limitations of highland areas. Bamboo and pine groves are grown in areas with gentle or steep slopes that are not suitable for crops. Valuable trees are harvested from these groves for fuel and building materials. Because of this, the Apatani valley has no wasteland; every square inch of land is put to use. Different families manage this plantation. It is each family's duty to plant fresh bamboo and pine saplings in the grove after it has been cleared so that their offspring will be able to enjoy them in the future. The ancestors of the Apatanis engaged in this practice. Cultural landscapes aim to increase awareness of the interdependence of people, social structures, the environment, and related ecological systems, as well as the fact that heritage sites are not isolated islands (Taylor & Lennon, 2011).



**Fig -3:** Paddy field during the monsoon time in Ziro Valley (Source : webguy.in/postcards-from-ziro-valley/)

## 2. 1 Religion

Nature is revered by the majority of Apatanis. As a result, they hold that all things in the universe are endowed with divine power and serve as symbols for God or Deity. The sun and moon are revered as the two ultimate beings. Originally, Donyi-Polo—the Sun God Donyi and the Moon Goddess Polo—were worshiped by all Apatani. Abotani, the only ancestor of all Apatani,

initiated this. The Apatanis are able to sustainably preserve their landscape because of their customs and traditions. Every day, people pass by memorials, monuments, and other such items without giving them any thought at all. Nevertheless, these inconspicuous markers on a cultural landscape can have an impact on their existence or nonexistence (Gibson, 2009).



**Fig -4:** Apatani Women praying to their god Donyi-Polo (Source: hindustantimes.com)

The Ziro Valley system has already set an example for modern society, which is struggling to find ways to inspire communities to support sustainable development in this era of rapid development. About 70% of people in the Ziro Valley work in agriculture; the remaining people are employed in ecotourism, commercial crop plantations, and timber harvesting. They employ time-tested methods to manage the land and all of its uses. As part of the traditional system, houses in villages are constructed on land that is higher than the paddy fields. The additional advantage of the house sites is that rainwater washes various sorts of trash, including animal and human waste, into the paddy fields, enriching them. A sort of rainwater drainage called *suppyu* adds manure to neighboring paddy fields. However, there is nowhere for stagnant water, making the villages extremely hygienic places to live. Various scholars have defined landscape as a visible area, a visible component of the environment, or a person's sensory perception of the surroundings (Alvarez Munarriz, 2011).



**Fig -5:** Use of bamboo and tin together, commercial shops in the front part of the house (Source : indiahikes)

### 2.2 Challenges for the continuity of the landscape

The distinctive paddy-cum fish farming method has endured for many generations and is impervious to the adverse consequences of progress. Modern methods have not affected their farming practices in their quest for greater yields. There isn't any fertilizer used other than organic manure. Every household must manually finish the entire agricultural cycle. It is improbable that hired labor will be used in agricultural settings. Though a few villagers, primarily of the younger generation, are moving away from the area in pursuit of higher education or work opportunities, they still hold great pride in the commitment to and importance of their agricultural practices. All family members—whether they reside in Ziro or somewhere else—get together to labor in their fields during harvest season, from young children to the elderly. In addition, locals are seen cultivating commercial crops as opposed to working in their fields. A community's spirit can be a major factor in shaping how people envision changing the landscape. Landscape planning processes may draw inspiration from the concrete surroundings and events that form the foundation of a community's identity (Stewart, Liebert & Larkin, 2004).

### 2.3 Settlement pattern

The Apatanis believed in coexistence. According to oral history, they always lived in a colony as a family. Apatanis live in the middle altitude zone. They use the Row housing system. All of the adjacent houses' walls are connected. The house is planned like a row until there is a

breakage such as a road or any other obstacle in between. The cowpaths initially separated the colony. Even today, the Apatani colony is separated by government-built roads. The disadvantage of having these houses in a row is that if one of the houses catches fire, all of the other houses are at risk of catching fire as well. Cultural heritage and cultural landscape are a collection of human products that reflect society's needs, thoughts, and memories (Amit-Cohen, 2009).



**Fig -6:** Division of the Apatani region into different colonies by roads and natural landscape

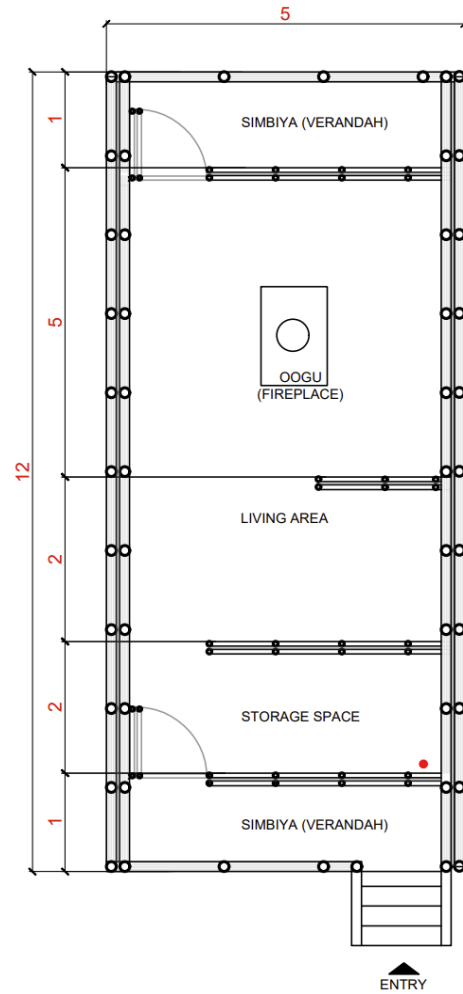
(Source : maps)



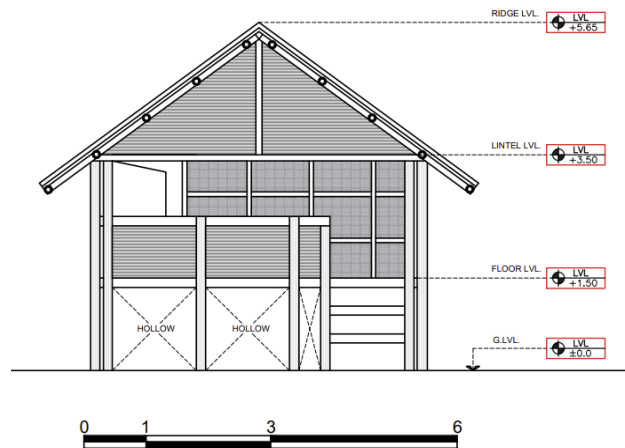
The traditional carvings and symbols that adorn the Apatani houses are common. In addition, they employ bamboo as their main building material and have a distinctive bamboo fencing system. The homes are built to endure the region's intense rains and to keep a cosy temperature all year round.

#### 2.4 Typical plan of Apatani House

The house is divided into two sections; the first section serves as a hen coop and storage area. The main living room, which is the second part of the house, is where almost all activities happen, including cooking, sleeping, resting and changing, as well as chit-chatting, household chores, weaving and handicraft practice. This area of the house serves primarily as a flexible space that can be used for any purpose.

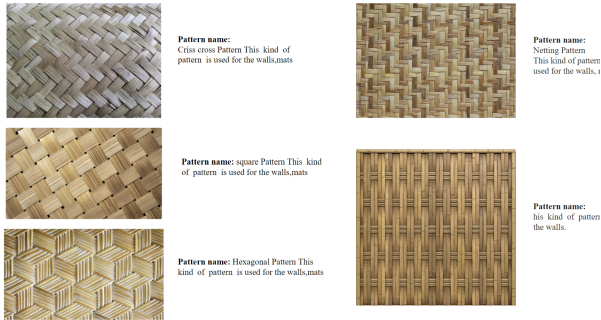


**Fig -7:** Typical plan of Apatani house

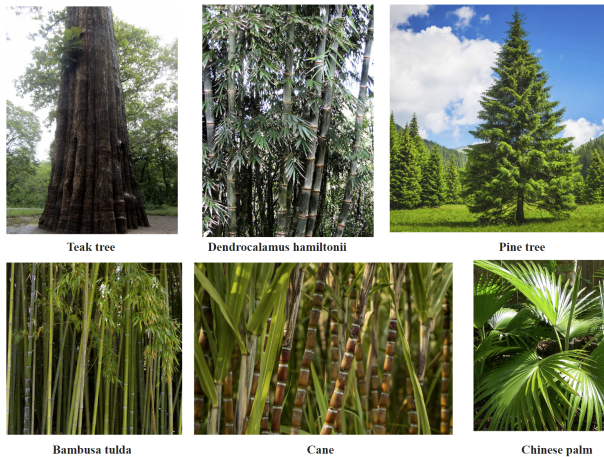


**Fig -8:** Typical elevation of Apatani house

Typically, bamboo, wood, stone, dry paddy straws, thatch grass, cane leaves, banana leaves, etc. are utilised to build Apatani homes. The term "the Green Gold of Arunachal Pradesh" refers to bamboo. Two species of bamboo, *Bambusa tulda* and *Dendrocalamus hamiltonii*, are utilised in construction. Almost all architectural elements, including walls, ceilings, floors, roofs, and stairs, are made of bamboo.



**Fig -9:** Bamboo weaving patterns



**Fig -10:** Different species of plants used for construction

### 2.5 Waste management

By reducing soil erosion, preserving water for irrigation, and raising paddy cum fish, the Apatanis have developed a multifunctional water management system that unites land, water, and farming systems. A well-managed irrigation system has effectively irrigated rice cultivation land since the beginning of time (Nimasow, 2010). Using locally accessible resources and traditional methods, the Apatanis have created a scientific irrigation system for the valley.

Every stream that emerges from the nearby hills (Borang) is canalized at the valley rim, diverted by a system of primary, secondary, and tertiary channels, and tapped soon after it leaves the forest. When there isn't a big river, irrigation water from smaller rivers or streams is used in a way that benefits every field equally. A certain amount of water is redirected in the feeder canal gang and then goes through ducts called huburs to distribute the water equally among all the paddy fields. To feed as many terraces as possible, the feeder canals alternately block and open the connecting ducts. Most of the detours that lead to the ducts in the paddy fields are constructed from bamboo and wood. A ditch (mugho) on a bund with one or more outlet ducts keeps the water flowing. Plots are separated within the Apatani terraced valleys by earthen dams that are 0.6 meters high and are held up by bamboo frames. Each plot has an outlet and an inlet on opposing sides. The outlet of the high-lying plot is provided by the low-lying plot's inlet. The inlet and outlet points are connected by deeper channels. The inlets and outlets on the terraced plot can be opened and closed to allow water to be drained or added as needed. By constructing a wall close to forested hill slopes that is 1 m thick and 2 to 4 m high, stream water can be harvested. This is transported to agricultural fields via a channel network.

### 2.6 Paddy fish culture

The fish known as tali nguyi (*Channa sp.*) and papi nguyi (*Puntius sp.*) are thought to have originated in paddy fields naturally. These fish are usually caught by lowering the amount of water in the field by opening the bunds' outlet. An indigenous bamboo trap is set up in the outlets to catch the fish. Conventional baskets, nets and the like are used to catch the remaining fish in the field. Owing to the fish that naturally inhabit paddy fields, the Arunachal Pradesh government initiated an experimental programme of paddy cum fish culture in the Apatani valley in 1964–1965. 23 paddy field plots totaling 10 acres were used in the experiment, which was deemed a huge success. In paddy fields, carp damage crops by feeding on the leaves of the paddy. Because of this, when the paddy has expanded significantly above the water, this kind of fish is stocked.



**Fig -11:** Paddy field harvesting and trench digging happening simultaneously  
(Source : mygov.in)

### 2.7 Genius loci

"GENIUS LOCI" refers to the distinctive atmosphere or spirit of a place. The genius loci of the Apatani community in Ziro Valley, Arunachal Pradesh, is manifested through a multifaceted interplay of cultural, environmental, and social elements that collectively define the distinctive character of the landscape.

Central to this nature are the intricate terraced agricultural methods for which the Apatani are famous. These visually impressive agricultural methods not only shape the natural terrain but also demonstrate the community's deep connections and adaptations to the natural environment. Traditional settlement patterns, including housing and common area design, contribute significantly to the overall genius of places, creating a spatial identity that reflects the values and lifestyle of the community.



**Fig -12:** demonstration of the genius loci of Apatani community in Ziro Valley, Arunachal Pradesh through the image (Source : hippie-inheels)

Cultural practices and rituals play an important role in shaping cultural landscapes, with specific places and

spaces imbued with spiritual significance. The deities encompass the religious and cultural traditions of the Apatani people, becoming a tangible expression of their spiritual connection to the land. Additionally, community participation in conservation activities, exemplified by sustainable land use methods such as fish farming in rice fields, will further integrate environmental harmony into technical sites.

Aesthetic values are woven into the fabric of the landscape through the artistic expressions, traditional art forms and crafts of the Apatani community. Traditional architecture, sculptures and artworks contribute to the visual identity of the area, enhancing its overall aesthetic appeal. The oral traditions and historical stories of the Apatani people play an important role in genius sites, serving as a means of preserving and transmitting cultural heritage. This includes storytelling, folklore and the significance of specific monuments, thereby enriching the cultural tapestry of the landscape.

Finally, genius loci extends to the social fabric of the Apatani community, including customs, social interactions, and community events. This collective identity, rooted in the landscape, is reflected in people's shared experiences and memories. In essence, this study aims to provide a comprehensive understanding of the genius positions of the Apatani community in the Ziro Valley, shedding light on the complex interaction of cultural, environmental and Society together forming the unique and multifaceted features of the cultural landscape.

### 3. Conclusion

Both in the past and the present, there is evidence of the people who shaped the cultural landscape to suit their needs. Every culture has a distinctive quality that links people to the natural world. The loss of the cultural landscape would imply the absence of humanity. The way that people view and relate to nature and the landscape appears to have an impact on how they treat it, preserve it, and pass it on to coming generations. In addition to being viewed as a source of life and nourishment, nature is also perceived as a destructive force. But now that we know how important environmental factors are, innovations need

to be carefully considered to see how they will affect how people interact with nature and culture.

Urbanization has led to the loss of the idea of a central living space in recent years. These days, people would rather be alone than congregate in one place. The customary high stilts have been replaced with low plinths. At first, materials that were readily available locally were used, but these days, more readily available alternatives are being used. This facade treatment is the only means by which the identity of the Apatani house is being attempted to be preserved. The use of traditional architectural methods and techniques is progressively diminishing. It is essential for us to remember and preserve the methods and techniques that define architecture in addition to its aesthetic qualities as aspiring architects.

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