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# VISUAL AND PSYCHOLOGICAL INFLUENCE OF INTERIOR LANDSCAPE IN PUBLIC SPACES OF LUXURY RESORTS IN INDIA

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**Abstract**— Landscape has always been the key element that connects nature to the built form throughout the evolution of structures in time. The influence that landscape and green spaces have on the people is by far incomparable because it helps a person relate to his natural roots. Keeping the psychological and visual influence of landscape on humans in mind, in this study we will invite nature to the interiors. Merging the built with the natural elements in public spaces of resorts to better understand its effect on various user groups and study their reactivity, efficiency and workability. Visual and psychological influence of interior landscape on people is way beyond just what we see aesthetically or how it affects our brain, but it also caters to the stimulation of all our senses of touch, sound and smell. Various moods and behaviours are brought out when people are exposed to controlled designs which helps understand the different patterns of reactions exhibited by people in their surroundings. This study will explore how different spatial arrangements and typology of interior landscape possess the power to create a space, using principles and elements of design, for the users to help them break free from the monotony of the city and indulge themselves in a natural retreat.

**Keywords**— Aesthetics, psychology, interior landscape, spatial arrangement, efficiency, influence, social response

## I. INTRODUCTION

Landscape has always played a huge role in the life of people and has been an important component of the urban environment. Green spaces provide us with multiple advantages which as discovered and researched through time have proven to not restrict themselves to just physical or environmental aspects but also mental and psychological [2]. A healthy lifestyle is not limited to physical well-being but also mental, which in various ways has been complimented by

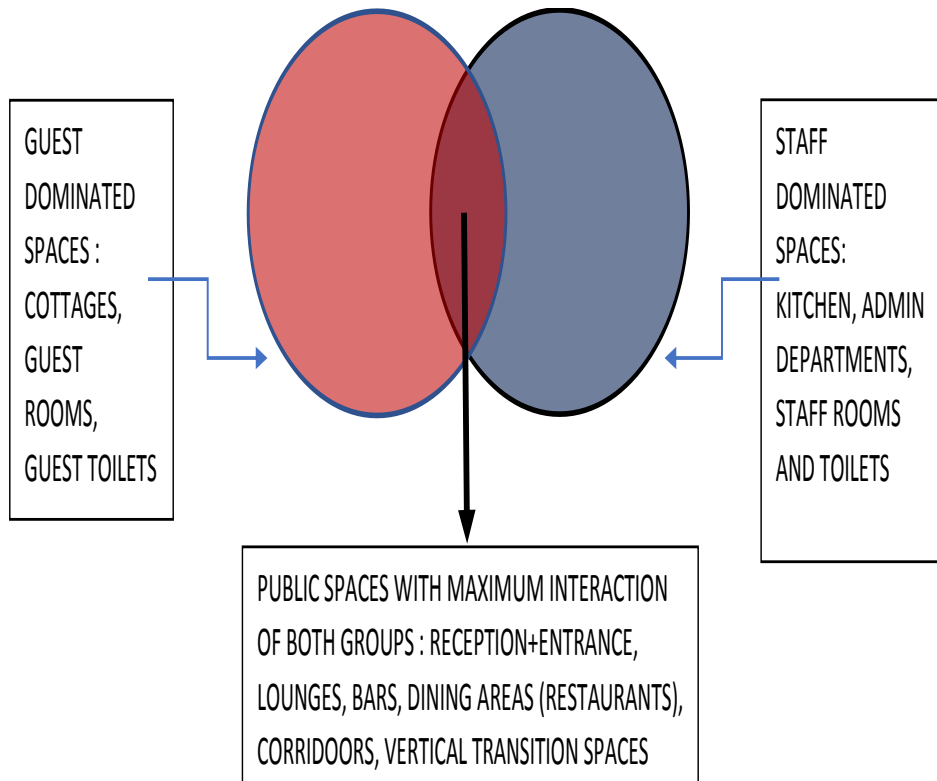
landscape, especially when it is introduced in the interiors. Besides cooling cities and reducing urban heat island on large scales, when merged with the interiors, the landscape plays a very personal and significant role as it helps in reducing carbon dioxide content of air, reducing background noises, cooling the building etc. and have an important impact on the user's psychology and behaviour. Landscape in the interior has been scientifically proven to assist in stress reduction, increase productivity, increase attentiveness, achieve calmness and mental restoration and also promote positive psychological and economic responses in people.

Resorts are places which are usually used as a retreat or to break away from the monotony of the city life and indulge oneself into the calmness of an escape, to reconnect with their true self and create a positive change.

When it comes to places like resorts, aesthetics and visuals play an important part. Interior landscape is not only necessary in these buildings for psychological benefits, but also to stimulate all the senses for an enriching experience. A pleasingly aesthetic space with a soothing design, colour, fragrance and arrangement combined with green design helps in activating the sensory and aesthetic outlook in the people and creates a more luxurious environment.

Introduction of landscape in public spaces of resorts such as waiting areas, lounges, bars, receptions etc. not only increase the aesthetic value of these spaces but these spaces are also ones with the maximum interaction between the major user groups which are the staff and the guests. These spaces also involve the maximum movement and circulation at all hours with varied activities which can help us better understand the two major aspects for this research study.

In Northern, jam packed cities of India, where the built structures have taken over the natural environment by large ratios, adopting green spaces to the internal surroundings of resorts may directly and indirectly affect the user's reaction and perception created with the help of design and could only prove to be fruitful and positive.



**Fig. 1.** Emergence of Public spaces

## II. PROPOSED ALGORITHM

### Research Question

How does the visual and psychological stimulation of interior landscape influence the space and user groups in public spaces?

AIM -

The aim of this research is to analyse and identify the effect and influence of interior landscape on human psychology in public spaces of a resort

### Objectives –

- To understand the application and arrangement of hardscape and softscape within a structure.
- To understand the impact of arrangement of vegetation/plant species through aspects such as visual and sensory stimulation, from the different user groups in public spaces of resorts.
- To analyze the psychological response in the user groups on effect from the use of landscape in publicly interactive spaces of luxury resorts.
- To understand the perception and aesthetic values of interior landscape through texture, colour, light, sensitivity, temperature.

- To identify case studies and carry out surveys for a better understanding of the issue and space quality.
- To suggest strategies for maximum impact of interior landscape on the user groups keeping in mind the visual and psychological attributes.

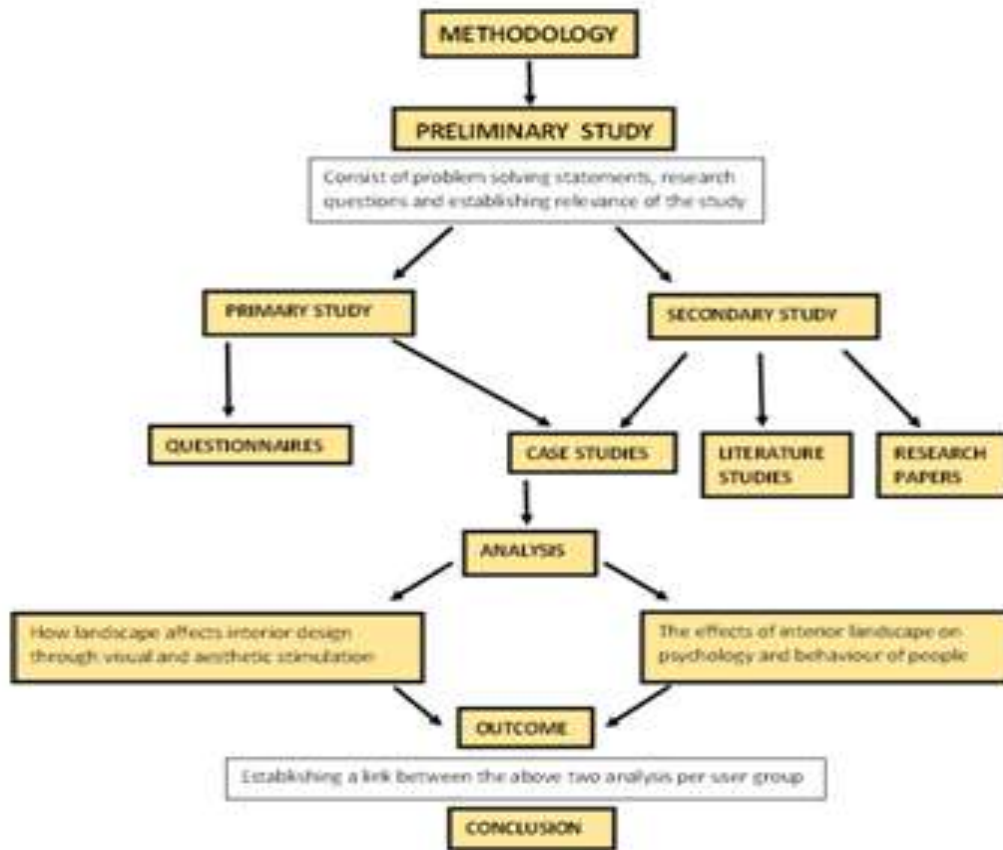
### Scope –

The scope of the research study is confined to the visual and psychological effect of interior landscape in only the public spaces of luxury resorts in and around the city of Lucknow. The study does not deal with any other factors or exceeds the influence of them in spaces besides the aforementioned.

### Limitations –

- Virtual dependency due to the ongoing pandemic
- True essence of spaces for better understanding could not be experienced.
- Analysis of the research is derived from the surveys itself and supported by case studies and literature studies.

**Methodology –**



**Fig. 2.** Methodology of the conducted research showcasing various stages

Methodology breaks down into multiple step by step processes among which the first breakdown is consisted of the **preliminary study**

**Preliminary Study:**

Consist of problem-solving statements, research questions and establishing relevance of the study. This further breaks down into PRIMARY STUDY and SECONDARY STUDY

**Primary study:**

This type of study is broken down into three parts, questionnaires and case studies

Case studies in consideration for the study are:

The palms , resort and club , lucknow

Lebua resort , lucknow

The scorpio club , lucknow

Secondary study:

This is broken down into two parts, LITERATURE STUDIES – which consist of books, articles etc. and RESEARCH PAPERS

- Looking through books, articles, papers which deal with a part or parts of the adopted research study.
- Understanding concepts, definitions, design parameters, advantages, disadvantages, etc. of interior landscape.
- Studying the concepts and design styles behind planning of resorts of chosen region to help understand the climate and typology of the landscape. Understanding the physiological, psychological and aesthetic factors discussed in the preferred mode of studies and also understanding the application of the same

III. LITERATURE STUDY –

- 1) **Time-saver standards for landscape architecture (second edition) - Time Charles W. Harris / Nicholas T. Dines** <sup>[1]</sup>

In this book of standards, we are introduced to data related to design and planning of architectural academic disciplines. It maintains and enhances its emphasis on promoting environmentally suitable techniques, processes, and materials which are aimed at mitigating the impact of construction intervention. It serves as a framework with standards and



appropriate modes and types of presentation for spaces to be designed through landscape. This volume features an increased coverage of pavement design vegetation restoration; metric site layout practices, including recreation facilities and whole new expanded construction details with simplified construction materials data which makes it easy to interpret and understand.

## **2) The psychological effects of plants on the well-being of people - Sara bell <sup>[9]</sup>**

This research paper has in depth dealt with majorly the psychological and mental wellbeing and effects of plants and landscape of human beings. It deals with the observation of the people - plant relationship and helps in providing for testable hypothesis. Factors like perception and psychological methodologies are introduced in this study to establish a more scientific background and justify the facts related to their correlation with one another and on the human beings. This book not only deals with the modern scenario of the people – plant relationship, but also takes a leap back in history to review this relationship and provide a brief look at the symbolic representation of plants with an emphasis on the trees, by people throughout the ages. While the report was prepared, community surveys were conducted among people about garden beautiful projects in their respective areas to collect responses and suggestions from them regarding social benefits of nature in urban areas. Furthermore, this study also involves aspects of the passive people - plant interaction which assists in the research and findings of a physically passive response of people and plants related to human behaviour and reactions. Critique of current passive methodologies showcase the critical appraisal of the employed methods of testing of environmental influence on peoples psyches. Plants are proven as a source of sensory stimulation and studies regarding some of the components of plants and their possible effects of the persons psyche.

## **3) Behavioural impact of interior landscaping on human psychology – Shanta Pragyash Dash <sup>[10]</sup>**

This study deals with the analysis of the relationship between interior landscape and the psychology of the people in its surrounding. It acknowledges the implementation of visual and psychological factors to establish conclusions and justify the research. The paper helps the readers in distinguishing between various elements of interior landscape and how they can be used and maintained in a general environment. Considering the elemental part of interior landscape, classification of the types of walling systems and their functions has been carried out to understand its affects in interior spaces along with the classification of the types of flooring systems that can be used for interior landscaping and deals with analysing their visual and aesthetic values. Psychological factors are also considered that affect human perception of a space using a brief explanation through

environmental psychology and various perceptions. Elaborate use and effects of colour , sounds, smells, etc on the aesthetic approach and psychology of the users is studied and understood through scientific examples and explanations. This report also consists of a brief introduction to biophilia and it's relation to the study. The research is carried out by the help of surveys and analysis in support of the researched components of the research study. Introduction of concluded design guidelines after the research is prepared that can be followed and kept in mind while designing an interior space with landscape.

## **4) Directed study interior landscaping – Rijan Lammichhane <sup>[7]</sup>**

This study focuses on the process to improve psychological comfort and wellbeing of users through nature inspired interior landscaping. It deals with and in depth study about the important interior landscape design parameters which are lighting , interior environment, water systems etc. and how they affect the people and environment around them. Indoor plants and their species have been categorised based on their typology and their effects which has helped to establish a review on the appropriate and suitable elements which help to regulate and stimulate aesthetics. Indoor plants are also categorised on the basis of their spatial utility and medical benefits in the spaces they are planted in. This study helps us understand the effects of interior landscape on physical and mental human health, work efficiency, and indoor environment quality, also with the assistance of external natural factors such as climate and adoption of sunlight. Inclusion of case studies has been done to demonstrate and understand the efficiency of the above studied psychological and health benefit factors and providing a justified analysis.

## **5) The relationship between greenspace and the mental well-being of adults\_- Victoria Holden, Scott Weich, João Porto de Albuquerque, Stephen Jarvis, Karen Rees <sup>[12]</sup>**

This review systematically appraises the evidence for associations between greenspace and mental wellbeing, stratified by the different ways in which greenspace has been conceptualised in quantitative research. For research of this paper , the authors undertook a comprehensive database search and thorough screening of articles which included a measure of greenspace and validated mental wellbeing tool, to capture aspects of hedonic and/or eudemonic wellbeing.

They identified six ways in which greenspace was conceptualised and measured which are:

- amount of local-area greenspace
- greenspace type
- visits to greenspace
- views of greenspace
- greenspace accessibility
- self-reported connection to nature.



The criteria the authors undertook for the inclusion were:

- Population: adults aged over 16 (or all ages, but not wholly or mainly children)
- Exposure: any measure of greenspace, defined as areas of grass, trees or other vegetation (both urban and rural studies)
- Control: Comparators must include a control group which differed in the type/degree of exposure to greenspace, or direct comparison before and after an intervention
- Outcome: mental wellbeing, ascertained using a validated measure of hedonic and/or eudemonic mental wellbeing, or one or more aspects of these (e.g. life satisfaction, happiness, quality of life).
- No study designs were explicitly excluded.

Results were carried out according to various categories and type of green spaces and merged in tables to showcase the effects they have on people from all contexts. It was observed that different people of various age groups react differently to the type of landscape area they were exposed in. their previous persisting psyche also plays an important role in their adaptation and perception of the newly exposed environment. A definite and subjective conclusion could not be carried out as the number of variables was large and hence demonstrated a scattered outcome. Despite the uncertain results, it was established that most people react positively to natural stimuli in every context.

## **6) Interior Softscaping – Surendra Nath Rayprolu , Rahul Nashipudi <sup>[11]</sup>**

This study digs deep in the ancient and foreign processes and aspects of interior landscaping while considering all visual aspects such as texture, pattern, variety, shape and colour. It compares species and categorizes them according to a broad usage based on their typology and sustainability in respective spaces, listing its efficiency in various settings.

Indoor plants are the most efficient and cost effective means of removing air pollution, two plants per 100 sq ft or two plants per a small office keep the air pure and healthy (Wolverton et al., 1989). Psychological impact of plants in shopping environment - The urban forest is an essential component of any viable retail space Interior Plantscape helps to create powerful business image (Wolf,1996). In a plantscaped office, people recover from stress quicker (Helen,2000). Productivity increased 12% when people performed tasks on a computer with plants, compared to people who performed the same task in a room without plants (Lohr, 2000). Green workplaces help recruit and retain workers (Lohr, 2000). Workers who spend at least 4 hours per day on a computer show a significant improvement in their efficiency and concentration (Berg, 2001). Problem solving skills, ideation and creative performance all improve substantially in a workplace with plants.

According to Wayne Hansen, a member of Cal-OSHA and an editor for JCAHO publications, human assets are the most valuable and expensive assets of any business. In terms of cost/square foot, the human asset is approximately 10 times the total building operating cost and nearly 100 times the energy cost. No matter how it is expressed, when a business can give rise to personal productivity, the business wins. It is widely known through the respected research done by Dr. Roger S. Ulrich of Texas A&M University, Helen Russell, Surrey University, England as well as the recent studies conducted by Dr. Virginia Lohr of Washington State University that plants significantly lower workplace stress and enhance productivity.

Plants in the workplace attract, retain and enhance attitude of today's selective employee. Surveys conducted by Unifi Network, Westport, Conn. report numerous factors that assist in managing today's competitive workplace market. The data indicates that in order to attract and retain top employees, the workplace must include aspects of what inspires employees during "off" time. Gallop polls indicate that two thirds of the American working force cites gardening as their favourite hobby. Perhaps this "green thumb" passion explains why humanizing the workplace with green plants is a highly effective method to promote employee satisfaction. Copious studies such as those conducted by Dr. Ulrich and Dr. David Uzzell from Oxford University verify the positive effect plants have on employee perception and disposition. In the final analysis, marketing research (Krome Communications, 2000) confirms that employee attitude and retention is a top incentive for corporations to continue interior landscape contracts.

New Study Shows Interior Landscaping Improves Worker Productivity – interiors + sources <sup>[4]</sup>

This article discusses about how indoor plants affect the psychology of people in a workspace and also increase satisfaction. Through experiments and previously conducted studies , they have concluded that incorporation of interior landscape increase job efficiency and satisfaction by 40%. A series of three experiments undertaken as part of the study demonstrate that plants in office spaces increase employee productivity by as much as 15 percent and improve workplace satisfaction by up to 40 percent.

### Experiment No. 1

using an open plan office design and examining the short-term benefits of a green office on perceived air quality, concentration, workplace satisfaction, and various measures of productivity.

### Experiment No. 2

focusing on the long-term effects of the same variables.

### Experiment No. 3

taking place at a global consultancy firm in London, where the effects of office design on levels of productivity were examined.

Exposure to plants and natural settings can improve moods. Furthermore, increases in wellbeing have shown to coincide with less mental distress among people living in urban areas interspersed with green spaces.

### 7) Interaction with indoor plants may reduce psychological and physiological stress by suppressing autonomic nervous system activity in young adults: a randomized crossover study - Min-sun Lee, Juyoung Lee, Bum-Jin Park, and Yoshifumi Miyazaki<sup>[5]</sup>

The aim of this study was to examine psychological and physiological benefits of interaction with indoor plants in modern people. The authors have focused on cardiovascular changes when a person makes a contact with foliage plants while measuring the autonomic nerve system activity. In addition, they have attempted to quantify the psychological changes during the contact with plants as well. The study subjects were 24 young male adults at an average age of 25 years. The crossover experimental design was used to compare the differences in physiological responses to a computer task and a plant-related task. Subjects were randomly distributed into two groups. The first group (12 subjects) carried out transplanting of an indoor plant, whereas the second group (12 subjects) worked on a computer task. Then, each subject switched activities. The psychological evaluation was carried out using the semantic differential method (SDM) and physiological evaluation using heart rate variability (low-frequency (LF) and high-frequency (HF) components) and blood pressure. Analysis of the SDM data showed that the feelings during the transplanting task were different from that during the computer task: the subjects felt more comfortable, soothed, and natural after the transplanting task than after the computer task. The results suggest that active interaction with indoor plants can reduce physiological and psychological stress. This is accomplished through suppression of sympathetic nervous system activity and diastolic blood pressure and promotion of comfortable, soothed, and natural feelings.

### 8) How Plants Improve Your Mental and Physical Health – hillside<sup>[2]</sup>

This article discusses about the mental and physical benefits of landscape, outside and within a built environment.

#### • Improves Mood

Human beings generally feel happier and more optimistic in surroundings with plenty of plants and nature. Consider a survey conducted at four San Francisco Bay Area hospitals. In the survey, 79 percent of patients said they felt more relaxed and calm, 19 percent felt more positive, and 25 percent felt refreshed and stronger after spending time in green spaces.

Indoor plants and green spaces remind us of our connection to nature, and helps us focus on the bigger picture, which can alleviate symptoms of depression. Also, the physical aspect of being around nature, releases feel-good chemicals in the brain such as serotonin and dopamine. A 2007 study found a bacterium in soil called *Mycobacterium vaccae* triggers the release of serotonin, which lifts mood and reduces anxiety.

#### • Relieves stress and anxiety

Looking at plants and flowers, whether indoors or outdoors, is a peaceful activity free of worries or conflict. It encourages living in the present moment and engages the senses.

A study published in the “Journal of Health Psychology,” compared the effects of indoor reading amidst landscape to indoor reading without natural aspects. The study reveals both the activities helped decrease cortisol levels. However, stress levels decrease significantly more with the presence of green elements around us. Likewise, the study participants enjoyed a fully restored positive mood after their readings.

#### • Prolongs attention span

Being around plants strengthens attention span, which can aid concentration and learning. For example, a study published in the “American Journal of Public Health” examines the impact of green or natural settings on adults. The researchers found activities carried out in green settings significantly increase attention spans and alertness among the candidates which benefits them with basic tasks as compared to other settings.

### Case Study -

The selection of below case studies has been done on the basis of their categories as luxury resorts and their close vicinity and approach for research purposes and ease to carry out the required surveys. The scale of the project and its available amenities

#### 1. Palms club and resort –



Location- Sushant Golf City, Lucknow  
 From nearest airport – 12km  
 From nearest railway station – 10km  
 From city centre- 9km  
 International cricket stadium- 1km  
 Cancer hospital and Medanta group hospitals- within 5km radius

**Ammenities And Activities –**

18 hole Internationally designed championship golf course  
 Swimming pool  
 Gymnasium  
 60 guest rooms  
 Extensive banqueting and conference options  
 On site lakes and waterfalls  
 Restaurant  
 Tennis court

**2. Scorpio club and resort –**



LOCATION- Kursi road, Lucknow  
 From nearest airport- 23km  
 From nearest railways station- 9.2km  
 From city centre- 15km  
 Kukrail Forest Reserve- <2km

**Ammenities And Activities –**

Swimming pool  
 Lake view restaurant  
 Bar and club  
 Open restaurant  
 DJ floor  
 Open theatre  
 Rain dance floor  
 Conference hall  
 Indoor games/ outdoor games  
 Villas

Casual brick cottages feature verandas or terraces.

**3. Lebua Resort –**



- Located in central Lucknow with a traditional bungalow lush green lawns
- personifies the Art Deco architecture prevailing in the area in the early 1900s
- The heritage bungalow has been restored to its former glory with a blend of modern hospitality and traditional elements which reflects the rich “Ganga-Jamuna” culture of Lucknow.
- Lakhnavi heritage is evident in all 41 rooms through art pieces
- Open courtyards and terraces mimicking the kothis and havelis

**Location-**

From nearest airport – 10.5km  
 From nearest railways station- 2.4km  
 From city centre- 5km  
 From closest bus stand- 3.5km  
 River side mall- 4.5km  
 KD Singh stadium- 4.2km

**Ammenities And Activities-**

Fine dine restaurants  
 outdoor swimming pool  
 rooms for guests with special needs  
 gymnasium  
 culinary walks  
 heritage walks  
 Victorian walks

**Data Collection –**

- User groups
- Staff of the respective case studies
  - General public (including people who might have visited the considered resorts for case study)
- Mode of data collection



•Through questionnaires and surveys

Questionnaires:

- Questionnaires to be prepared and mailed to staff of selected resorts to understand the point of views and preferences of the user groups.
- Questions regarding choice of elements of interior landscape, preferred arrangements and designs per space, if a certain theme is wished to be followed, their subjective view points towards interior landscape, and how it affects their productivity, mood, behaviour, and how it influences the environment of those spaces

**Analysis -**

After the primary and secondary studies are conducted and enough information is gathered from both of them, a detailed analysis to be conducted on the two major aspects of the research-

- How landscape affects interior design through visual and aesthetic stimulation.
- The effects of interior landscape on psychology and behaviour of people.

When a thorough study is done about the research problems , a link is created between the founded analysis. In the case of this study, the outcome would be generated for respective user groups (staff and guests). The collective analysis of responses from each user group will be done individually, suggesting how the factors for analysis affect the user groups.

This outcome would be further broken down into a conclusion by considering the outcome from each user group

**Staff analysis-**

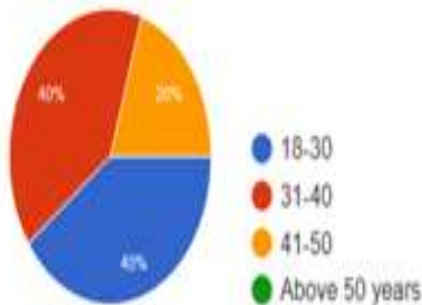
A questionnaire answered by staff members of the chosen case studies:

Total respondents - 10

Age groups and genders –

40% of the 10 respondents were aged between 18-30 years of age, 40% were aged between 31-40 and the remaining 20% ranged between 41-50 years of age.

30% of the surveyors characterised themselves as male while the remaining 30% was female.



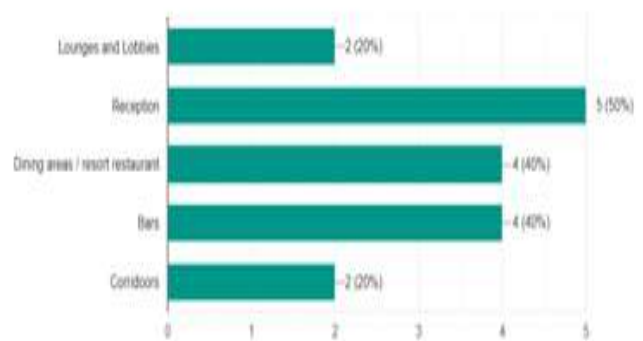
**Exposure to nature in everyday life –**

Most staff members who work at these resorts, irrespective of their job assignments, age or gender are quite exposed to nature in their everyday life (7 being the most chosen option with 40% selections on a scale of 1-10)

**Most used spaces by employees and its effects -**








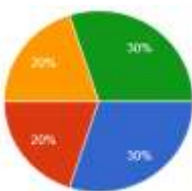


Among the options provided, the reception was the most used and accessed space in all three resorts of case study, even if the job profile was not limited to reception duties.

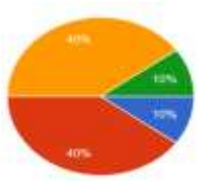









This may be due to exposure of the reception as a central and most exposed space of the resort or due to timed reporting by staff members after shifts.



Most employees in their designated workspaces feel calm and at peace amidst interior landscape. The have responded to have felt more relaxed and comfortable than they would have in the absence of those elements. The green of the plants and colour from other landscape aspects, enhance the surroundings of the users and the pop of colour is appealing to spend long work hours in.

On given options to choose preferred arrangement of interior landscape for each space mentioned according to visual and psychological aspects

Spaces	Option1	Option2	Option3	Option4
<b>Lobby/Lounges</b>  <ul style="list-style-type: none"> <li>● Option 1</li> <li>● Option 2</li> <li>● Option 3</li> <li>● Option 4</li> </ul>	 Visual: <ul style="list-style-type: none"> <li>● hanging plants cover the ceiling while appearing open at the same time</li> <li>● The abundance and arrangement gives depth to the space</li> </ul> Psychological: <ul style="list-style-type: none"> <li>● Hanging plants appear very refreshing and soothing</li> </ul>	 Visual: <ul style="list-style-type: none"> <li>● Open surroundings plus vegetation on top looks very aesthetic and pleasing</li> </ul>	 Visual: <ul style="list-style-type: none"> <li>● Simple and minimalistic</li> </ul> Psychological: <ul style="list-style-type: none"> <li>● Gives a feeling of openness</li> </ul>	 Visual: <ul style="list-style-type: none"> <li>● Open space</li> <li>● Gives a natural colour to the lobby</li> </ul>
<b>Dining areas</b>  <ul style="list-style-type: none"> <li>● Option 1</li> <li>● Option 2</li> <li>● Option 3</li> <li>● Option 4</li> </ul>	 Visual: <ul style="list-style-type: none"> <li>● Abundance of plants and greenery</li> </ul> Psychological: <ul style="list-style-type: none"> <li>● Might give a unique experience to the customer</li> </ul>	 Psychological: <ul style="list-style-type: none"> <li>● Has a soothing affect</li> </ul>	 Psychological: <ul style="list-style-type: none"> <li>● Feeling of surrounded with plants</li> <li>● Minimal greenery satisfying enough</li> <li>● Very open and pleasing</li> </ul>	 Visual: <ul style="list-style-type: none"> <li>● plants on the table add to the aesthetics</li> </ul> Psychological: <ul style="list-style-type: none"> <li>● Seemed like a new and interesting idea</li> <li>● Open area provides a feeling of largeness</li> </ul>
<b>Reception</b>  <ul style="list-style-type: none"> <li>● Option 1</li> <li>● Option 2</li> <li>● Option 3</li> <li>● Option 4</li> </ul>	 Visual: <ul style="list-style-type: none"> <li>● Minimalist and classy</li> <li>● Gives a rich look</li> <li>● Pleasant</li> </ul>	 Psychological: <ul style="list-style-type: none"> <li>● Gives a very natural feel to the place</li> </ul>	 Visual: <ul style="list-style-type: none"> <li>● Looks very aesthetic and achievable</li> </ul> Psychological: <ul style="list-style-type: none"> <li>● Highlights the reception and gives it a touch of importance</li> </ul>	 Visual: <ul style="list-style-type: none"> <li>● Looks simple yet interesting with no overuse of grass</li> </ul> Psychological: <ul style="list-style-type: none"> <li>● Individual green space gives a sense of independence to the area</li> </ul>

<p><b>Bars</b></p>  <p>● Option 1 ● Option 2 ● Option 3 ● Option 4</p>	 <p>Visual:</p> <ul style="list-style-type: none"> <li>• Fills up the space but doesn't make it clustered</li> </ul>	 <p>Visual:</p> <ul style="list-style-type: none"> <li>• Good aesthetics</li> <li>• Simple arrangement</li> </ul>	 <p>Visual:</p> <ul style="list-style-type: none"> <li>• Heavy plants look great in a bar area</li> <li>• abundance looks great and gives volume</li> </ul> <p>Psychological:</p> <ul style="list-style-type: none"> <li>• Looks tropical and brings a sense of vacation</li> <li>• Very refreshing</li> </ul>	 <p>Visual:</p> <ul style="list-style-type: none"> <li>• Looks very pleasing ,clean and aesthetic</li> </ul>
<p><b>Corridors</b></p>  <p>● Option 1 ● Option 2 ● Option 3 ● Option 4</p>	 <p>Visual:</p> <ul style="list-style-type: none"> <li>• hanging plants and grass highlighted by the lights look very aesthetic</li> <li>• Looks very open and pleasing</li> <li>• Simple and nice without too much large plants, minimalistic</li> </ul>	 <p>Visual:</p> <ul style="list-style-type: none"> <li>• Simple and minimalistic plants</li> <li>• The potted plants do not overdo the space and look neatly organised</li> </ul> <p>Psychological:</p> <ul style="list-style-type: none"> <li>• Clean non cluttered feel</li> <li>• Open environment with a combination of plants make the space very calm and composed</li> </ul>	 <p>Psychological:</p> <ul style="list-style-type: none"> <li>• It is a very open space with enough plants. Looks like a peaceful spot</li> </ul>	 <p>Visual:</p> <ul style="list-style-type: none"> <li>• Vertical gardens give depth to the space</li> <li>• Natural abundance gives a new identity to the corridor space</li> </ul>

**Visual and psychological influence of pre-existing or incorporated interior landscape on staff members-**

**Psychological:**

- Gives a feeling of freshness, and helps stay focused with a relaxed frame of mind especially during rush hours
- helps being comfortable and concentrated in the environment
- Indoor plants give a sense of calmness hence increase work potential.

- Plants are preferred in the workspace as it would make work more interesting
- Instigates a calm and happy feeling during work

**Visual :**

- Plants help break the monotony of the space
- The colours which come along with plants are very aesthetic and pleasing to the eyes



According to the responses of the staff members, most feel relaxed in an environment with indoor plants as it keeps their mind fresh, increases work potential and efficiency, helps them stay concentrated while keeping them calm and at peace. The indoor plants and landscape also create an interesting and unique environment which encourages the members to be efficient skip lesser work days.

Among the choices provided to the staff members for preference of plantations in the interior environment, 40% opted for floral plants, 40% opted for a mix of foliage and floral plants and 20% opted for just foliage plants. This ratio showcases the interest of surveyors to incorporate plantations with colour in their surroundings as it stimulates their vision senses and breaks the dull monotony of the work space. Floral plants also release pleasing fragrances which change enhance the mood of the space through the sense of smell and initiates a positive outlook amidst the users.

Water features incorporated among interior landscape elements has been expressed by a majority to create a calm environment due to the sound of the moving water as it stimulates the sense of hearing and creates a steady harmony which relaxes the users hence increases work efficiency. They are also considered to be soothing elements which also act as visual elements for aesthetic purposes and a contrast to the existing softscape.

**Psychological and Visual effect and influence of exterior landscape spaces on the interior of the resort –**

- add to the aesthetics and have soothing effect
- extend the interiors to a natural space
- makes the place look bigger
- make the places look more naturally inclined

Visual hindrance and blockage by plants can be avoided if arranged properly and according to the space they are being incorporated in

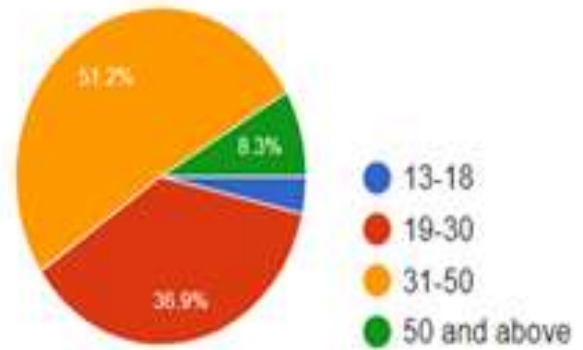
As a whole, interior landscape helps the staff members stay positive and fresh and creates a very relaxing environment which increases work efficiency and helps them stay composed and calm during work loaded days. Observing natural elements in their surroundings help them focus and stay concentrated and perform attentively. Despite the psychological comfort of green elements, these elements also increase the beauty of the space and help the onlookers witness an aesthetic

**Guests/visitors analysis –**

Total respondents – 84

Age groups of 84 respondents –

Among the 84 surveyors, 51.2% of the people belong to the age group between 31-50, 36.9% people belong to the 19-30 age slot, 8.3% people comprise of the age groups which are 50+ years while the remaining lay between 13-18 slot.

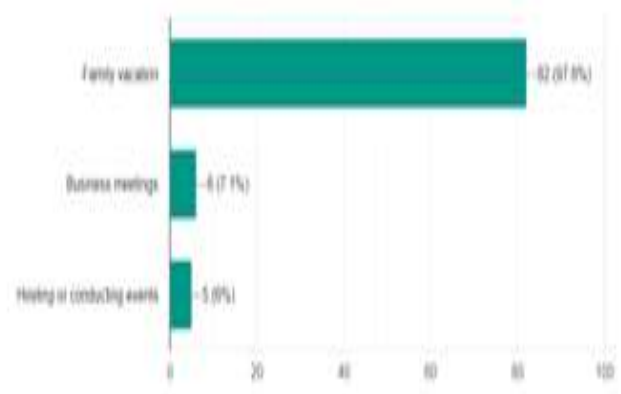


**Exposure to nature in everyday life-**

It is observed that people above 30 years of age, irrespective of gender are more exposed to nature and open environments unlike the younger age groups. This might be a result of professional or lifestyle differences. Most surveyors have responded to being exposed to nature at a moderately high scale with 7 on a 1-10 scale being the most selected option. (32.1% selected mark 7, 21.4% selected option 8 and almost 12% marked a range of 9-10). Very few of the respondents marked to be almost negligibly exposed to nature in their everyday life (total 12% marked between 1-4 on the scale out of 10).

**Exposure and frequency of attendance at resorts –**

Most people have responded to be visiting resorts 1-2 times a year (86.9%) while almost 13% have voted a visit of above 3 times a year. The low frequency of visits may lead people to look for “perfect spots” for the purpose of their visits which can be influenced by the availability of indoor landscape to appeal the visitors.





Respondents' have answered this particular question according to their perspective of interior landscape which in some cases has been linked with exterior natural elements which gives us an understanding of their point of view and what pleases them. These statements provided by the respondents are not limited to green elements of nature but also revolve around hardscape elements and water features.

- Contrasting hardscape structures like gazebos, fireplaces, fountains, ponds, nature walks, statues which highlight and support the green design
- High emphasis on greenery and floral arrangements in the interior spaces
- Promotion of natural tones and elements such as neutral colours and stones, woodwork and cushions with sturdy cloth, lots of natural light, plants and water features
- Small plants such as bonsais on reception tables to enhance the space with minimalistic efforts
- The surrounding context such as that of forests or hills can play a huge role in defining the interior landscape of a space. Green patches and islands in the interior of the resorts to break the monotony of the architectural designs

In further questions it is analysed that people of age groups below 30 are likely to spend more time in public spaces of resorts than people of older age groups. This might be a result of the need to explore among the younger generations.

45% respondents have chosen to spend 3-4 hours in a public space in a day, 44% prefer to spend just a required amount of time in public spaces, 1-2 hours, which might also be affected and depend on the nature and the duration of their entire stay, while 10.7% have opted to spend 5+ hours in a day in the public spaces of a resort.

It is observed that most people prefer indulging in spaces and surroundings with natural and green availability when on their stay in resorts for varied purposes.

- It's imperative to connect with nature for inner bliss as it rejuvenates the soul and removes toxin by creating a relaxing atmosphere
- Natural elements and landscape add to the aesthetic and luxurious aspect of the resort which makes it more likely to be approached for a stay

•When taking a vacation and a break from everyday monotony, most people chose to indulge in activities that included nature such as safaris, treks, birdwatching, picnics etc.

•Sound of water is expressed to stimulate the feeling of calmness and peace among the visitors and is assumed to aid the whole experience

•The immediate surroundings feel fresher and pleasant when incorporated with interior landscape.

•A balanced mix of nature and modern architecture with simple and sleep elements is preferred by various visitors for purpose of a relaxing vacation

•Resort facilities that are independently incorporated with natural elements such as landscaped balconies with guest rooms give a unique experience to the users.

When asked about the psychological and visual influence of water body incorporation alongside green elements in the interior space, 21% people preferred it for aesthetic purposes, 56% felt it was a soothing element to have in the surroundings, 59% felt it makes them calm and helps them destress while 13% felt that it was a cosy contrasting element to the softscape.

Conjoining the exterior green spaces with the interior has proven to be an important aspect to the respondents where they seem to relate to their surroundings and connect with the nature.

Talking about visual considerations, it is observed that large exterior green spaces

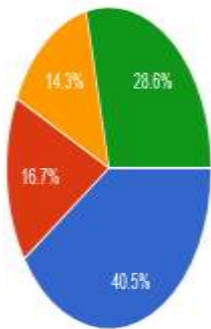
•add value to the property and make it more appealing and approachable by guests and gives an identity as a whole.

•enables entry of abundant natural light within the space

•enhances the indoor plants within the spaces and give an illusion of a larger space without bounds.

On given options to choose preferred arrangement of interior landscape for each space mentioned according to visual and psychological aspects

## Corridors



- Option 1
- Option 2
- Option 3
- Option 4



Visual:

- A perfect balance of modern and natural elements
- Clean, creative and minimalistic
- Good volume, and the green doesn't seem to intrude or reduce the void.

Psychological:

- Smooth and relaxing



Visual:

- Perfect blend of exteriors and interiors
- Chic, balanced, clean,
- Relaxing and subtle
- access to the view of the sky
- Balanced approach with right mix of wood
- organised and appealing
- clear pathway with greens on both sides
- Lots of warm Woods & greens, indirect natural light
- can be easily maintained



Visual:

- visually pleasing, green and balanced
- Combination of natural and artificial lighting to illuminate the landscape
- Uncluttering and well arranged
- Open with corridor surrounded by greenery

Psychological:

- relaxing and homelike
- unconventional
- Its serene and very calm



Visual:

- unique and intense, breaks the monotony of the wooden corridors

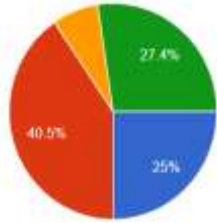
Psychological:

- split second eye stimulation



Spaces	Option 1	Option 2	Option 3	Option 4
<b>Lobby / Lounge</b>    <ul style="list-style-type: none"> <li>● Option 1</li> <li>● Option 2</li> <li>● Option 3</li> <li>● Option 4</li> </ul>	 Visual: <ul style="list-style-type: none"> <li>• It feels like an outdoor space, although in the interior with illusion of a large space</li> <li>• Looks tropical due to courtyard, water fountain feature and abundant sunlight</li> </ul> Psychological: <ul style="list-style-type: none"> <li>• pleasant, balanced, cheerful, fresh and feels closer to nature</li> <li>• very breathable and relaxing, satisfying for a vacation</li> <li>• Feels more integrated</li> <li>• greenery in the ceiling and on the walls that gives closeness to the feeling of sitting in the middle of the nature</li> </ul>	 Visual: <ul style="list-style-type: none"> <li>• good ratio of greenery to seating area so people can spend time there comfortably</li> <li>• ambience and aesthetics</li> </ul> Psychological: <ul style="list-style-type: none"> <li>• Balance between natural and modern design elements.</li> <li>• lively and attractive</li> <li>• Warm and inviting</li> </ul>	 Visual: <ul style="list-style-type: none"> <li>• The design and arrangement of landscape</li> <li>• Abundant indirect natural light</li> <li>• Minimalism</li> <li>• Pleasing to the eyes</li> </ul>	 Visual: <ul style="list-style-type: none"> <li>• The green space is subtle, well defined and aesthetic</li> <li>• side arrangements gives the pleasure and warmth without disturbing other interiors</li> <li>• Give the correct balance between modern architecture and greenery</li> </ul> Psychological: <ul style="list-style-type: none"> <li>• Gives a feeling of being cosy and close to nature</li> <li>• The greens makes the space relaxing, appeals to the vision, improves the air quality</li> </ul>
<b>Dining spaces</b>    <ul style="list-style-type: none"> <li>● Option 1</li> <li>● Option 2</li> <li>● Option 3</li> <li>● Option 4</li> </ul>	 Visual: <ul style="list-style-type: none"> <li>• Visually pleasing, unique</li> <li>• Dim lit space combined with the landscaping creates a cosy ambience</li> <li>• functionality combined with aesthetics</li> <li>• Uniformly distributed greenery, Bigger leaves, overwhelming natural element</li> </ul> Psychological:	 Visual: <ul style="list-style-type: none"> <li>• balance, spacious woody tables, neat and uncluttered look</li> <li>• high ceilings give an image of openness</li> <li>• understated yet visually appealing.</li> <li>• It is classy, modern and green</li> <li>• Looks systematic and not overdone</li> </ul>	 Visual: <ul style="list-style-type: none"> <li>• The green doesn't seem to intrude the space, instead it acts as a buffer, hence creating a balance</li> <li>• Midst of greenery, soothing n peaceful</li> <li>• Looks spacious and well-arranged and aesthetic</li> <li>• Good mixture of modern materials and nature.</li> </ul> Psychological: <ul style="list-style-type: none"> <li>• Gives a feeling of being outdoors</li> </ul>	 Visual: <ul style="list-style-type: none"> <li>• Subtle with perfect balance between furniture and plants.</li> <li>• well-lit and has a very natural and open air set up</li> <li>• Soft light in dining area, natural light in green zone looks very pleasing</li> </ul>

### Reception



- Option 1
- Option 2
- Option 3
- Option 4



Visual:

- Grandeur combined with sparse greenery
- Symmetry looks appealing
- The perfect combination of lightning greenery and modern architecture

Psychological:

- Peaceful and minimalist with a serene effect



Visual:

- Foliage looks really good against white wood.
- Visually and aesthetically appealing
- Simple and not overdone , very sophisticated
- Presence of greenery and cleanliness

Psychological:

- Neutral tones are very relaxing and the light pouring from above
- Subtle, Minimalistic yet beautiful



Visual:

- Interesting unique design
- Enough greenery and not overly done

Psychological:

- Looks attractive and welcoming



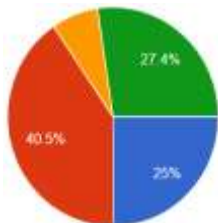
Visual:

- Combination of greenery, wood and open space
- Has good amount of natural lighting
- natural lighting
- proper ratio and blend

Psychological:

- give a feeling of being welcomed

### Bars



- Option 1
- Option 2
- Option 3
- Option 4



Visual:

- palms in this arrangement add a lot of character to this space
- Good foliage with sufficient breathing space
- Looks bright, fresh, open, soothing colours

Psychological:

- Very homely and relaxing
- peaceful and comfortable and fresh
- Gives a feeling of both open and enclosed.



Visual:

- Most visually appealing balanced.
- Bar area not crowded, yet the greens are visible
- Well-coordinated and different
- Optimal lighting and spacious
- Decent and classy



Visual:

- Beautiful leaves and plantations
- Openness and greenery
- The floor and arrangement of colours and the overwhelming greens

Psychological:

- Gives a feeling of a natural setting
- Soothing and cheerful



Visual:

- Aesthetically appealing
- more clearance and combines the outside and the inside elements perfectly.

Psychological:

- relaxing and unique



From an analysis of all the above mentioned spaces, it is observed that visitors of ages 30 and below are more likely to explore and spend time in public spaces, while the people who are 30+ age would prefer to use it moderately. It is also observed that people prefer a mix of floral and foliage plants and are inclined towards a balance of fragrant and non-fragrant plants. They would also like to incorporate water features in most of the spaces as it stimulates their senses and is pleasing. Many have even expressed a feeling of being welcome and homely amidst a natural environment which improves the quality of their stay.

#### IV. CONCLUSION

Once the studies are conducted and facts are proven and justified through in-depth research, a conclusion can be drawn with the help of all the findings and analysis, answering the required questions of the research paper.

- **How different or similar the experience of interior landscape is for guests and staff members and how it affects them**

Considering the analysis conducted after data collection from both user groups, it is observed that both the parties have certain common outcomes of the survey. The most important ones being that both groups feel very calm, relaxed, and at peace when surrounded by interior landscape. This inference remains similar in a work environment (staff) or for a recreational activity (visitors). Incorporation of hardscape elements such as those of water features has proven to add to the enhancing effect that green elements have in the interiors and have successfully uplifted the whole experience. Floral plants when introduced alongside water features and regular plantations stimulate various senses in the users (smell, visual etc), which also are an addition to the overall experience. More people like to spend time in public spaces if they are merged with green elements as it gives a luxurious feel, especially for the visitors whereas in some staff members, it increases attention span and longevity during work hours. The overall experience of required psychological and visual stimulation is witnessed by both the user groups.

- **What do these user groups prefer (in accordance to visual and spatial aspects) and how it affects their psychology and behaviour.**

On a broader outlook, both the user groups prefer spaces to have a good amount of interior landscape. Although the arrangement and distribution should be such that it does not disrupt the existing circulation and movement of the space, nor does it act as a vision barrier between spaces. The plantations and hardscape should be introduced in such a way that it creates a warm and welcoming environment while enhancing the spaces it is incorporated in. The guests/ visitors especially are driven by a lot of aesthetic and appealing factors

which come with indoor plantations and hardscape elements as majority visit resorts at a low frequency rate per year and usually for vacations, hence look for luxury which is emitted through proper and significant usage of interior landscaping. Besides the arrangement of hardscape and softscape, the user groups have been significantly aware about the importance of natural lighting in such spaces in visual as well as psychological aspects.

To conclude, from the surveys conducted and the analysis carried out, interior landscape appears to have significant visual and psychological impacts on the introduced user groups.

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