



## EFFECT OF FLORICULTURE AND LANDSCAPING ON HUMAN HEALTH AND ITS IMPACT ON THE DIFFERENT AGE GROUPS OF HUMANS.

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**Abstract:** Horticulture word is derived from two Latin words, hortus means (garden plants) and cultura (culture). It can be generally defined as the science which deals with growing of the garden plants. Floriculture which is also defined as the flower farming science is a branch of horticulture which is majorly focused on the cultivation of flowers, ornamental plants which also involves the bedding type, house type, flowering type, pot type plants. (Anonymous;2003). Nature and Human has close attachment since ancient ages. Especially in Indian system of medical treatment involves a major role of Nature into it. Even now the Therapeutic Gardens has proved their worthy in the treatment of the patients suffering from Neurological issues, Autistic children, and it's still the best ever therapy possible to refer a person suffering from Depression and Loneliness. As well here the discussion will be about Cognitive Benefits, Social Benefits, Psychological Benefits and the Physical Benefits, of the Floriculture and Landscaping effects on humans and will also be displaying the outcomes and the data of the survey and research conducted and Plants / trees that are used in the therapeutic garden which shows the drastic effects on the humans and their health. So, with the continuation of all the research work carried out earlier on this topic by the researchers a head of this research. This research work started with that vigour of curiosity whether, really there is any effect of floriculture and landscaping that would affect the humans and their work efficiency and their health.

**Keywords:** Floriculture, Landscaping, Human Health, Age Group, Therapeutic Gardens.

### 1.Introduction:

Horticulture is a word derived from two Latin word where hortus = garden plants + culture = culture. It's a branch of Agriculture dealing with the art, technology, science and business of the plants that grown also involves the growing of the plants that are useful i.e Medicinal plants, Fruits, Vegetables and also deals with methods of manufacturing, value addition, marketing. This branch of Agriculture incorporates each science with the aesthetics. (Jules&Janick,2010). Floriculture, which is also described as flower farming, is a branch of Horticulture that is majorly focused on the concept of growing of plants that gives flowers, plants that plays a key role in the ornamental point of view, it's the most important science useful for the Floriculturists. This branch involves a wide range of plants under it which ranges from herbaceous plants to perennials, house plants to pot plants (Hemla Naik,2013). Landscaping can be described as the science, art and the aesthetic branch of horticulture which involves in the processes and the activities related to designing / improving gardens and the surroundings of the structures like houses and buildings/ colonies which adds the beauty those things and makes them attractive. In simple terms it can be described as landscaping a processing of making the landscape (i.e structure, building, house) more attractive and adds the value and worthiness of it by using the flowers, trees, plants and other materials (Hand book on floriculture and Landscaping by K. Vasanth, Revised edition; 2017).

India is a country which has the various several agro-climatic zones which are known for the production of various unique and important products related to the floriculture. Now-a-days a dynamic shift has been seen in the field of floriculture making it go from sustenance production to commercial production. According to the National Horticulture Board statistics, during 2012-13 the area under floriculture in this country was 232.74 thousand hectares where the production was 1.729 million tonnes of loose flowers and 76.73 million tonnes cut flowers. (Anonymous; 2012-13). The major states of India where the floriculture is largely taken up are West Bengal (32%), Karnataka (12%), Maharashtra (10%) as follows. In this country major crops grown are Rose, Tuberose, Glads, Anthurium, Carnation, Marigold etc. India's export of floriculture was Rs. 455.90 cores in 2013-14. Major importing countries are U.S.A, Netherlands, Germany, U.K, U.A.E, Japan. 50% of flower units are in Karnataka, Andhra Pradesh, Tamil Nadu. Indian Government has Recognised the floriculture as the Sunrise industry has the capability of 100% export-oriented capacity so, the commercial floriculture has emerged as hi-tech operation by integration of controlled

green houses. (Anonymous;2017-2018). Agricultural and Processed Food Products Export Development Authority plays a crucial role in export promotion and development of floriculture in India.

Landscaping can be described as a process of Improving the aesthetic property of the landscape by altering / modifying its contours, adding ornamental features and planting. Here the vegetations, plants and the structures are used and blended perfectly with buildings which gives the good appearance. Landscaping increases the value of the property. It's also helps to place the trees and plants in the correct placement and the pattern in such a way it gives good shade to the building which indirectly decreases the cost of cooling. The perfect Landscape design can be obtained by following the principles of the Landscaping they are 7 in number those are Unity, Balance, Transition, Proportion, Rhythm, Focalization, Repetition. And also, the elements of Landscaping have a vital role in the designing of the plan they are 4 in number those are Colour, Direction or Line, Form, Texture, Scale. Landscaping is useful for the various economic reasons, environmental reasons, health reasons. Landscaping plays a crucial role in designing and the establishment of the Therapeutic gardens and also play the crucial role in the Horticulture therapy. further discussing about the objectives To determine the effect of floriculture and the landscaping on the human brain, To evaluate the impacts of floriculture and the landscaping on different age groups of human beings, To understand the importance of therapeutic gardens and horticulture therapy to humans, To determine the impacts of those above-mentioned therapeutic gardens and horticulture therapy on different age groups of humans in the society.

## 2. Materials and Methods:

This experiment was conducted in the two different locations of India. One trail was conducted in the Jalandhar, Punjab (Northern part of India) and the second trail was conducted in Annavaram, Andhra Pradesh (Southern part of India). When looked at the topographical features of the Jalandhar, it's a place located at elevation of 228m, 748ft, at the coordinates of 31.25690N, 75.44320E and total area consist of around 110km<sup>2</sup> with population of the 8,62,196, where 4,63,975 are males and 4,09,750 are females, having the literacy rate of 82.3%. Jalandhar has around 800 hospitals that makes the city with highest number of hospitals in Asia (Municipal Corporation) Whereas Annavaram, is a place located in East Godavari district of Andhra Pradesh with coordinates of 17.16°55.16"N, 82°24'19.89"E, total area of 18 km<sup>2</sup> with population of 11,000, where 6,254 are males and remaining 4,746 are females, Having total literacy rate of 79.4%. Annavaram has around 4 hospitals within the town. Further discussing about the parameters considered to carry out this research or experiment.

**2.1 Effect on different gender:** Here two major gender groups were taken into the consideration where they are differentiated into the two classes- Class-A (Males), Class-B (Females). Males compared with against the females.

**2.2 Effect on different Age groups:** Here different ages groups of humans were taken into consideration where the selection of age groups was as follows- 1. Teenagers, 2. Middle age, 3. Old Age people where the age consideration where 16 -21 years for teenage group of people, 28-40 years for middle-aged people and 50-65 years for old age people. These were again considered as Class-A (Teenagers), Class-B (middle-aged people), Class-C (Old age people). All the three were compared against each other among them.

**2.3 Effect on humans suffering from different health issues:** Here the humans suffering from different health issues were taken into consideration such as 1. People suffering with physical injuries 2. People suffering with Headache and migraines 3. People suffering with Depression, Anxiety and frequent Mood swings Again just the above-mentioned way they have been considered as Class A (Physically injured), Class B (Headaches and Migraines), Class C (Depression, Anxiety, Mood swings). All the three were compared against each other among them.

**2.4 Effect on humans based on their surrounding and their localities:** Here the localities and the surroundings of the humans where they live were taken into the considerations and here 3 categories were made, they are 1. Rural areas (Villages) 2. Urban areas (Towns) 3. Metropolitan (cities). These are coded as Class A (Rural area), Class B (Urban area), Class C (Metropolitan). All the three were compared against each other among them.

## 3. Result and Discussion:

From the following experiment as well as the observations it's made clear that there is significant effect of floriculture and landscaping on human brain and has a vital impact on different age groups of humans. Basically, what was carried out was live flowers and images of few beautiful landscapes associated with the floriculture and the other structures were showed and later on opinions on the flowers and the portrait of the landscape displayed were collected. Experiences were noted down that they had undergone by observing and also asked to rate their experience within the scale of 1 to 10, where 1 is the least count and 10 is the highest count and later on this rating which were given by the people were used to understand the effect of floriculture and landscaping on humans and their impacts on different age groups of humans.

**3.1 Effect on different gender:** Here two major gender groups were taken into the consideration where they are differentiated into the two classes- Class-A (Males), Class-B (Females). Here 10 male and 10 females were considered, and the rating were obtained, and the percentages of their opinions were obtained where the male's percentage was 59% out of 100% and the females' percentages was better as well as higher than males that it 64% out of 100%. So, here it's clearly visible that the floriculture and landscaping has a major impact on humans especially on Females.

**3.2 Effect on different Age groups:** Here different ages groups of humans were taken into consideration where the selection of age groups was as follows- 1. Teenagers, 2. Middle age, 3. Old Age people where the age consideration where 16 -21 years for teenage group of people, 28-40 years for middle-aged people and 50-65 years for old age people. These were again considered as Class-A (Teenagers), Class-B (middle-aged people), Class-C (Old age people). Here Again 10 people from each category was considered and ratings were taken where the Teens percentage was 57% and middle-aged people's percentage was 58% and old age people was 49 % of impact of floriculture and landscaping on them out of 100%. So, here there is high amount of impact on the Teenagers and in Middle age grouped people and has very less impact on the old age people.

**3.3 Effect on humans suffering from different health issues:** Here the humans suffering from different health issues were taken into consideration such as 1. People suffering with physical injuries 2. People suffering with Headache and migraines 3. People suffering with Depression, Anxiety and frequent Mood swings Again just the above mentioned in the above way they had been considered as Class A (Physically injured), Class B (Headaches and Migraines), Class C (Depression, Anxiety, Mood swings.) This was conducted in hospital where 10 people from each category was taken and the same procedure was followed the outcomes were like-the effect of floriculture and landscaping has been 55% on Physically Injured patients, 66% on the people suffering from Headaches and Migraines and has 72 % on the people suffering from Depression and Anxiety. So, here it is clear that floriculture and landscaping has major effect on the people suffering with depression and Anxiety and has second major impact on people suffering with Headaches and Migraines and a bit less / least effect on Physically Injured people.

**3.4 Effect on humans based on their surrounding and their localities:** Here the localities and the surroundings of the humans were their live were taken into the considerations and here 3 categories were made they are 1. Rural areas (Villages) 2. Urban areas (Towns) 3. Metropolitan (cities). These are coded as Class A (Rural area), Class B (Urban area), Class C (Metropolitan). Similarly, here also 10 humans were considered and the same ratings were drawn and results were obtained the result concluded that floriculture and Landscaping has 51% effect on people living rural areas, 60% effect on people living in town and has 69 % effect on people living in cities. So, here the major effect is seen on the people living in Metropolitan areas (Cities) and second major effect is seen on people living in urban areas ( Towns), finally least/less effect is seen on the people living in the rural areas(Villages)

#### 4. Figures:

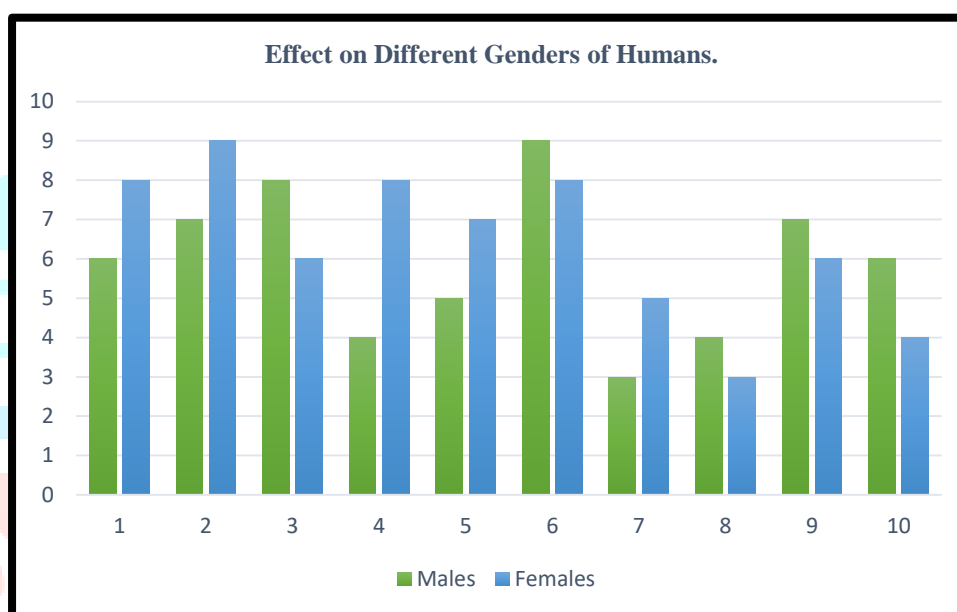


Fig 1. Graph showing the effect on different genders of Humans.

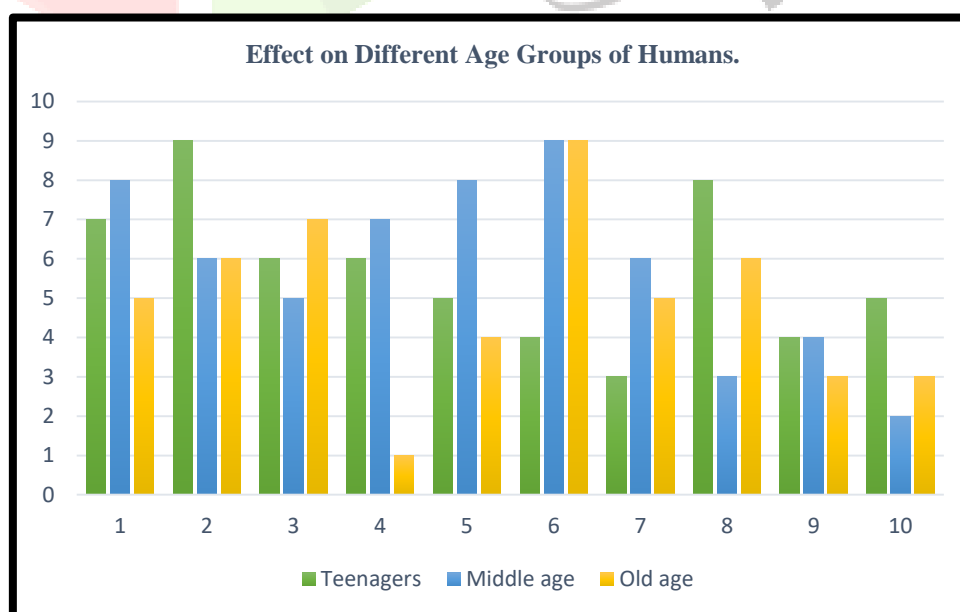


Fig 2. Graph showing effect on different age groups of Humans.

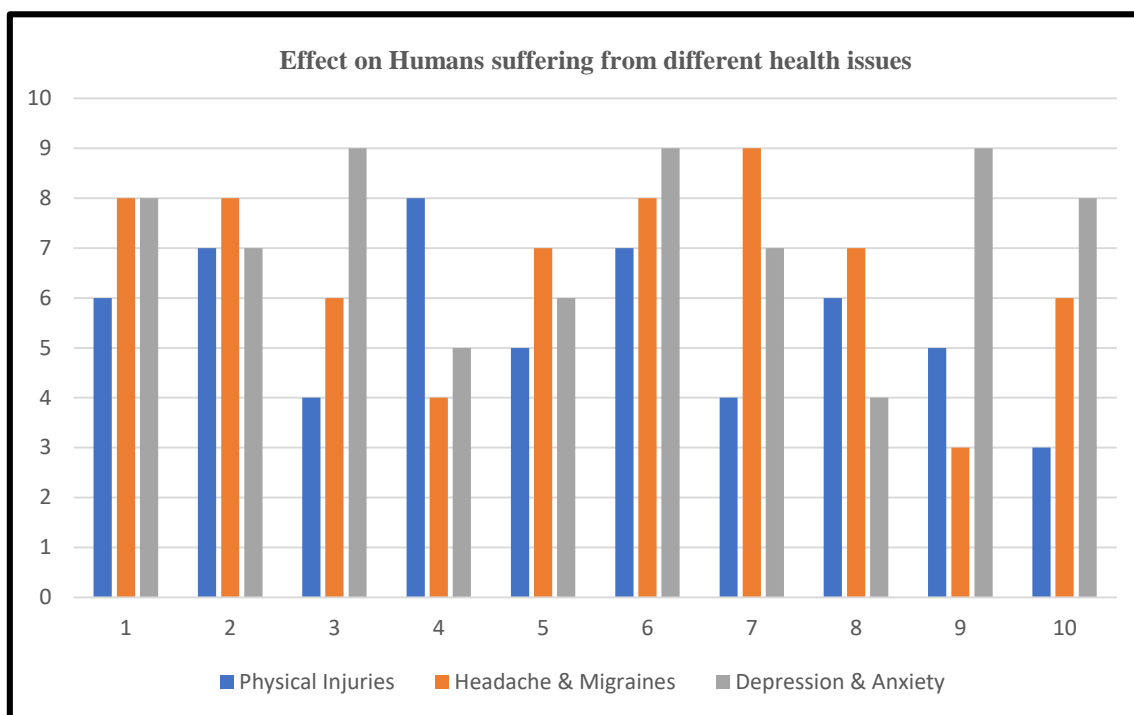


Fig 3. Graph showing effect on humans suffering from different health issues.

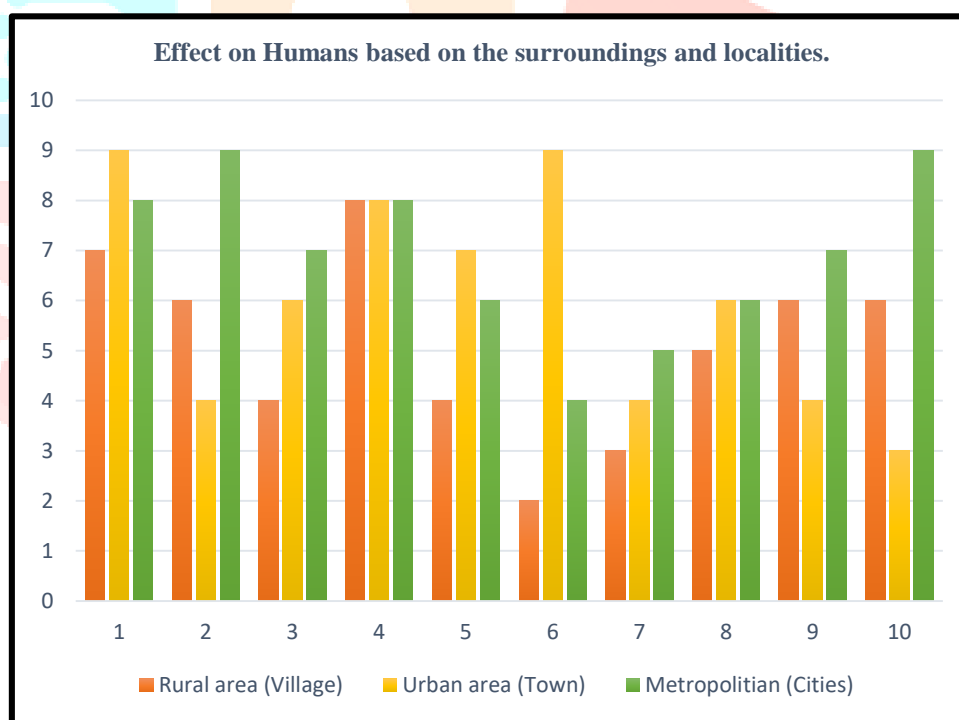


Fig 4. Graph showing effect on Humans based on the surrounding's and localities.

**THERAPEUTIC GARDENS:** These are components which are used a designed for the treatment, majorly designed on the basics of the target specific. Now-a-days referred by most of the Physicians, Physical Therapists, Occupational Therapists for the patients suffering from diseases like Physically and Cognitively impaired, HIV, Neurological, Spinal Injury, Alzheimer etc. Few major therapeutic gardens are: Garden of Oregon Burn Centre, Washington. Rehabilitation Garden at the shepherd Centre in Atlanta, USA. Benefits: Cognitive Benefits: Enhance cognitive functioning (Cimprich,1993; Herzog et.al,1997), Improve concentration (Wells,2000; Taylor et al.,2001), Stimulate memory (Namazi&Haynes,19940), Improve goal achievement(Willets& Sperling,1983). Social Benefits: Improve social interaction (Kweon, Sullivan&Wiley,1998), Increase social interaction (Moore, 1980; Margalis et al., 2000), Provide for healthier patterns of social functioning (Kuo et al., 1998), Improved group cohesiveness (Bunn, 1986). Psychological Benefits: Improve quality of life (Walicze et al., 1996), Increase self-esteem (Feenstra et al.,1999), Reduce stress (Rodiek, 2002), Decrease anxiety (Mooney&Milstein,1994)

Physical Benefits: Improve immune response (Ulrich & Prsons 1992), Decrease heart rate (Wichrowski et al;2005), Promote physical health (Armstrong, 2000; Rodiek,2002).

Plants that can be used in therapeutic gardens are- Rustle in the wind: Bamboos, Magnolia grandiflora, Musa paradisiaca. Attract buzzing bees: Lavendula officinal. Scented flowers: Rosa damascene, Mathiola incana L. Scented Climbers: Lonicera japonica, Hiptage benghalensis. Scented Shrubs: Cestrum diurnum, Murraya exotica, Jasminum sambac. Sweet smelling fruits: Fragaria x ananassa, Thymus vulgaris. Anti-stress herbs: Ocimum sanctum, Passiflora sp, Rosemarinus officinalis. Trees for shade: Pongamia pinnata, Azadirachta indica, Alstonia scholaris. Plants with a higher phytoncide emission: Pinus roxberghii, Quercus spp.

## 5. Conclusion:

Here by its concluded that there is crucial and very important effect of floriculture and the Landscaping on human brain and has a major impact on different age groups of humans. Floriculture and the Landscaping the two important sub-branches of Horticulture. Based on the experiments that are performed and the results obtained the above-mentioned statement is concluded. So, its every important for the humans to consider and recognize their useful effects of the therapeutic gardens. Once again, it reminds us the association and the bonding of human with Nature. Even government should take steps in such a way that they are able to create awareness among the humans and encourage the people to take the nature therapy and also every individual should dedicate some amount of area to build a garden which will be helpful to them in many ways and Corporate companies must compulsorily add the beautiful landscapes and gardens nearby to their offices which will be helpful to their employees to deal with stress and work pressure. So, once again its proved that there is a crucial effect of floriculture and landscaping on human brain and has a high impact on different age groups of humans.

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