An Evaluation of Climate Effect on Topography Design

P.Naina, M.Amara
MSc., Students Department of Geology,
Acharya Nagarjuna University, Guntur, Andhra Pradesh

ABSTRACT

According to the cruel weather modify in current days, professionals among dissimilar fields now pay additional concentration to the organization and alteration when meeting the issues of atmosphere. Furthermore, climate also clearly affects the natural and intended scenery. To methodically and specially understand how scenery is intended in reaction to dissimilar atmosphere, In this paper will initially argue the basic communication among scenery plan and weather. And then it will estimate the different landscape basics dealing with different types of environment, in conclusion and prominently to analysis the definite crash on practical scenery design based on previous findings. The result will focus on the choice making on design methods within weather change and provide rational recommendations for designers and preparation of future scenery design.

Keywords: Landscape Design, Climate, Landscape Factors, Material.

1. INTRODUCTION

The collision of climate change on water resources is also critically debated, and global warming accelerates the speed of water cycle process and increases uneven spatial precipitation. The latest report of United Nations Intergovernmental Panel on Climate Change special committee (IPCC) shows that climate warming allows all doubt. Thus it is necessary for the paper to systematically defined the impact of climate change on landscape and to study landscape design combined with recent studies from predecessors revealing that landscape environment factors affect assessment of thermal comfort from the research, which ultimately response to the different landscape elements in different design dimension.

2. TOPOGRAPHY AND TOPOGRAPHY DESIGN

Landscape refers to the combination of scenery, mountains, rivers, geography, geomorphology, etc. land and land on the substance and space collected of usual and anthropogenic actions. It reflects the complete individuality of an exacting area. Landscape plan reflects the complex historical society, customs, physical features and city improvement and other non-natural scenery. The idea of landscape on the explanation of several of the new landscape architecture defined landscape is a complex concept, wide. Also, the landscape concerned, with the incessant growth of the times in the regeneration and growth. With the rapid development of science and knowledge and the wealth today, people pay more and more concentration to the atmosphere, and more technical and purpose consciousness and understanding of landscape atmosphere. There is a discipline, though compulsory on this difficulty. The revolution of the globe gives the heartbeat of day and night which regulates the activities and reposes of natural life.

Fig. 1 Landscape

First, landscape which is based on the earth's surface atmosphere complex, directs the presentation of natural landscape, including climate, geography, hydrology and other factors. This is the majority essential basics of the area atmosphere. At the same time, along with the human factors concerned, people built buildings, streets; scenery began to highlight the social quality. From this viewpoint, it is a kind of common concrete language. The landscape is not fixed, and it is linked with our past and present. It is owned and created, changed, changing power sometimes from nature itself.

3.EFFECT OF WEATHER ON LANDSCAPE

3.1Effect on geography Design

Due to the scenery and geographic collection, incline and altitude, and direct solar radiation and sky diffuse difference, which make the load on the ground of the solar radiation varies from place to place. One of the most significant factors is the way and height of slope. On the hill to the East and the west can efficiently block the sun. Secondly, the grade surface and the sun angle difference influenced by solar radiation strength, such as: with the sun light vertical slope surface to receive the most quantity of radiation.

Fig.2 Impacts of climate on landscape

According to the pertinent scholars, less damaging effects of wind slope to the gorge 50 - 100 meters tall. They are usually situated in low-lying areas, the plummeting of cold air to form inversion layer, belonging to the local Greenhouse atmosphere better. Due to the cold plateau and cold pit, the top of the hill and slope valley has a poor environment. The tall mountains formed a wet windward slope, leeward slope and small mountains form a wet. In the air meet a tall hill, moist air attentiveness rises, air reaches the dew point in the windward slope is the configuration of cold climate. This makes the leeward drier caused the windward slope of wind and rain, climate phenomenon and leeward slope dry wind. The small mountain is the opposite. Thus, there is the effect of air greenhouse environment on regional terrain elevation. Likewise, in the landscape space, the terrain design can impact on the climate and environment space.

Surging land can considerably alter way near earth impressive flow, bound slope of the temperature dissimilarity between hot and cold, forms the local impressive circulation, thus affecting the urban wind atmosphere. This forms the local land wind. Local terrain wind is regional weather impact occurrence; the scale is about level less than 10 km, vertical 1 km. Valley wind typically occurs in the tapered and steep valleys, with the cyclical nature of the diurnal cycle, which belongs to the special places of the wind.

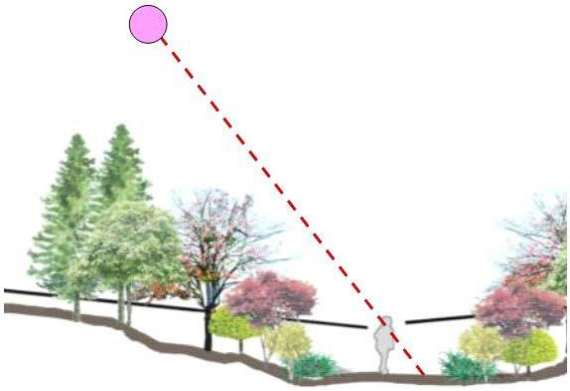

Fig.3 Effect of topography on sunshine

Basin storm comparatively kind due to the air at night along the hillside down, to near surface cooling caused, efficiently develop under the static wind city local weather. Such as the physical atmosphere in some areas bounded by mountains, the summer villages conquered the wind are different from each other, but in the plain area of law. During the examination of different terrain and progress the regional climate, and provide a theoretical basis for the urban landscape design in landscape design in the urban scenery.

To sum up, from the total stage metropolitan scenery of the urban atmosphere, the impact of the urban atmosphere is very significant, the same terrain design on the micro level urban scenery space and the role cannot be disregarded. To a convinced extent, the small terrain in the scenery space can be relatively free of change, so the viability of the development of the space climate is larger. In the design of land landscape space, we should make full use of the alteration of the terrain or, in order to achieve the reason of regulating the weather.

3.2Effect of Waterscape

Waterscape form of city scenery is usually separated into static and dynamic scenery water landscape. Water landscape is separated into rivers, lakes and ponds, etc. Dynamic water landscape is alienated into water, water fountains, water curtain

wall, etc. Static water is greatly better than the open area of the outside of the water.

Fig.4 Fountain

Dynamic water forms, mostly in water, water fountains, water curtain wall, etc. and hydrostatic contrast, water flow due to the contact surface with the air increases, the formation of water mist can more efficiently increase the air clamminess. Effect of water on the city air warmth is mostly inclined by three factors. One is since of the exterior reflectance, outside reflectance less than the ground. Under the same circumstances, the surface of the water can take up more solar heat than the land outside, which makes the surface warmth increase The related study shows that the weather is dry and the altitude is higher, because the solar emission is stronger, the surface warmth difference increases, the increase of temperature effect is obvious. And because of the high elevation area of air solidity and volumetric heat capacity is small, and the warming effect is more understandable.

Followed by the heat capacity of water to more than terrestrial soil and water in heat gain process can store more heat, making over the water heat reduced played a cooling effect. While the water during the cooling period, will release more heat than the land, the water over the heat increased, the warming effect. Research shows that the climate drier region, and as a result of land air moisture and heat capacity less, relatively greater heat conversion between water and land, making temperature effect is more obvious.

Lastly, due to the disappearance of water, the air over the water with abundance of water molecules, with the boost of wind incidence, water surface disappearance expenditure heat amplified. At the same time, the warmth above the water surface is reduced. The study showed that the climate is relatively dry region, due to the lack of land soil moisture constraints increase, so that the water evaporation caused by the decrease of temperature consequence is more apparent.

To sum up, weather has a significant crash on water atmosphere. According to the related research also shows that under the same external conditions, running the source prompted water molecules with air heat exchange, to reduce the consequence of air high temperature, air warmth by water show obvious difference.

Fig. 5 Running water

Let the hot space to cool down, efficiently raise the console of the human body. With the disappearance of water, the power of water on the air warmth in the city is accompanied with the clamminess effect. Recent studies exposed that outdoor thermal atmosphere factors, including air temperature, wind speed, relative dampness and solar radiation, affect assessment of thermal comfort, e.g., thermal awareness and approval. However, the differences in the comfort of people in different spatial climates are different. The humidity level influence how temperatures are felt. High dampness reduces the contented maximum temperature; low humidity allows a tolerance for higher temperature. At the lower limit of the comfort level humidity has little influence for individual awareness and approval which could be applied in material selection.

3.3. Impact on the Pavement

To reaction to the cooling consequence of trees, the use of high albedo resources can decrease combination of solar emission through urban ground surface and building envelopes and keep their surfaces cooler. Categorization of concrete is more,

this paper mostly based on the fabric and surface which are different, divided into hard pavement and soft pavement.

Fig 6. Cement Pavement

Hard surfacing refers to the dispensation of natural building materials, such as usual stone, wood or cement prefabricated blocks and other types of artificial building materials. According to the material and texture, it can be divided into stone, wood, brick and wood, concrete, gravel, pebbles, wood and other recycled materials. Stone is the most widely used material in paving resources. There are more types of stone, natural texture of the limestone, the layered conglomerate and the color of the bright color of the granite. In the landscape design can form a rich and colorful landscape effect.

The comparative similarity of wood is burly, which gives a natural and contented feeling to the human. Wood, in addition to the traditional timber platform and exhibition area gallery use, can also be wood waste wood, bark and other paved to the edge of the path or tree pool planting pool. This can achieve the coverage of bare soil, is conducive to the soil moisture and absorb rain and other environmental ecological defense consequence, is an excellent water permeability substance.

Fig 7. Wood pavement

Humidity(%)	Daytime Temperature With Solar Radiation	Temperature at night Without solar radiation
0 - 30	22 - 30	20 - 27
30 - 50	22 - 29	20 - 26
50 - 70	22 - 28	20 - 26
70 - 100	22 - 27	20 -25

Table 1.Humidity and comfortable temperature

4. CONCLUSION

There is such a theoretical instance, showing the authority of weather on scenery design: the steamy desert with a parapet around the courtyard allows the user had a completely different emotional feeling. Totally field wall design secures that the wind cannot enter the structure, the use of dark walls of paint absorbs the quantity of solar radiation, the ground and the pavement with a thick sufficient cement increases heat radiation, and heat gathers up. Imagining in such a square to enjoy the leisure time in the afternoon is a kind of pain.

Equally, in the same place and atmosphere environment, it can also make a cool and pleasant garden situation. In the plan method of both sides of the heightening walls, as far as probable into each outline of breeze, walls with blue ancient stone and rough surface can reflect heat and climbing plants. In the courtyard with a pool design, scattered fountain can not only make water in air, reducing the hotness, but also can infiltrate sunken planting beds. Plant can be selected as umbrella tree, in beds formed in the shade, rattan tables and chairs placed under it do not have a taste. This is an example of two extremes, with a different design advance to show the crash of climate on landscape design.

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