

Utilization of Abandoned Stone Quarries

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Abstract

Natural resource differs from a place to place, among them are natural stones used primarily for building structures, it is seen that most of the percentage of quarries are scattering casually and in amorphous or deliberate way without considering environmental factors or sustainable growth guidelines. The stone quarries majorly the exhausted ones are turning into a risk to the living beings and the nature, they triggered earth's natural profile to be warped, which requires to get an explanation to this matter really fast, studies are needed to capitalize these possessions appropriately and sustainably within a sound plan, while protecting the environment and the economic and the social growth, create a strategy that object to reorient the left out stone quarries and look a way to profit from them and edify the regional communities about such quarries.

Keywords: Stone, Quarries, Sustainable, Ecofriendly, Design, Architecture.

1. Introduction

The utmost suitable tactic to deal with such abandoned and uninhabited mining pits is through sustainable revitalization. Feasible and supple strategies were initiated across many other nations that intended to transform quarries into a unique location owned publicly or privately. And main aim to re develop the area and turn the area in to eco-friendly, and adventure home stays for the travelers around the country this redevelopment is mainly focused on using the abandoned land and using the sustainable material that can merge with the environment without causing any damage to the environment.

The potential use of such mines integrates sites that can be utilized for training and exploring purposes, amusing activities, the object of the research is to stir and backing the processes of renewal of the regions affected by excavating and digging sites by altering them into an appropriate new supportable and sustainable land exploitation.

In this study, aim is to create a habitable and adventures environment for the travelers and explorers who like to explore places and learn new traditions. This study is focused to create amusable and exploring environment while considering the utilization of abandoned stone quarries.

2. Methods:

The abandoned pits remained as untouched wounds in the land, with no thoughtful land retrieval efforts. The selected place of site was once a functioning quarry. To redevelop this site into functional it is a challenging task to be done but it is not impossible. The issue of construction can be solved by using different materials and different construction techniques regions like this can be solved by using different types of environmental studies. The terrains that are facing in making this project in to functional and environment friendly is possible with the help of the using natural resources like wind energy, solar energy the design of the building will be attached to the quarry cliff and never knowing that this cliff sharp edge lines will be based on the building elevation.

WHY MINING FIELDS

Mining fields are abandoned and left out as a waste land from debates keeping the future in mind, we had chosen mining land to redevelop that waste mining pit into useful functional site. As a designer we had chosen this old mining quarry as our design construction site due to rapid growth of population there is scarcity of land, we started demolishing the agriculture lands for the human settlements. Rather than demolishing the agriculture and constructing sky scrapers we can use the abandoned open quarry sites to create an adventure and amusement home stays for the travelers. This mining fields are having some unique shapes that can create some natural look to the structure that we are going to design and this mining pits also have an having various minerals stored in themselves.

By using this waste and abandoned land we can create an land mark for the human race that each and every thing can be possible. And also, it can allow the government to approve for using the waste land for creating something rather than keeping the land useless it can be help full to the flow of the people to that area. Because of this mining site we can save most of the economy that we are going to spend on the structure most of the minerals and materials that we need are available in the mining site by using this natural material we can save the environment from the pollution.

Site Details

For this Revitalization project I have chosen the site in Palakkad, Kerala, India. This site is a stone quarry that is located near the LEAD college, near sastra nagar, Palakkad. This quarry is located in middle of the town, and this quarry is surrounded with western Ghats.

Location of the site: (10°49'19" N and 76°39'24" E) these are the latitude and longitudes of the site location.

Type of stone that quarry produces Biotite gneiss (grey) + Pegmatite veins. This is the type of rock that quarry is having.

Nearby locations: Palakkad Railway station near by distance in 4.2 Km.

This site is divided into different small pits that are have been left after mining of the minerals. The total area of the quarry is (138546.52 Sq. Meters) and in terms of perimeters (1893.98 Sq. meters) and in this area there are four other small pits that are located.

Pit 1: The total area is (11220.78 Sq. Meters)

Pit 2: The total area is (6893.17 Sq. Meters)

Pit 3: The total area is (11205.50 Sq. Meters)

Pit 4: The total area is (3202.18 Sq. Meters)



Satellite view of the site (Google)

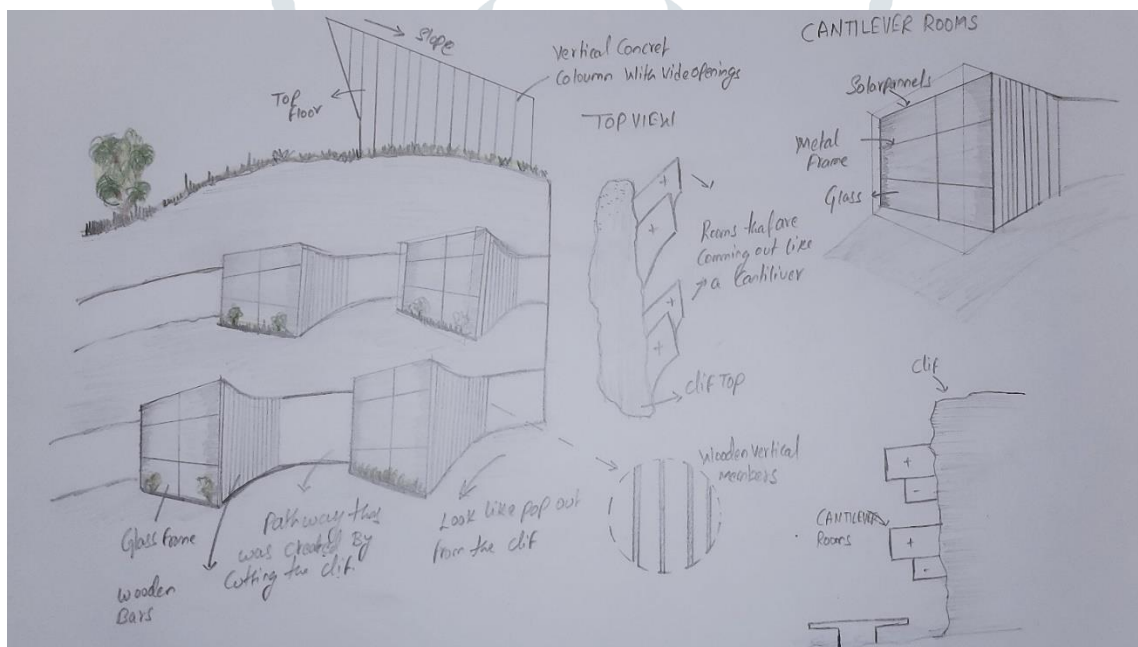
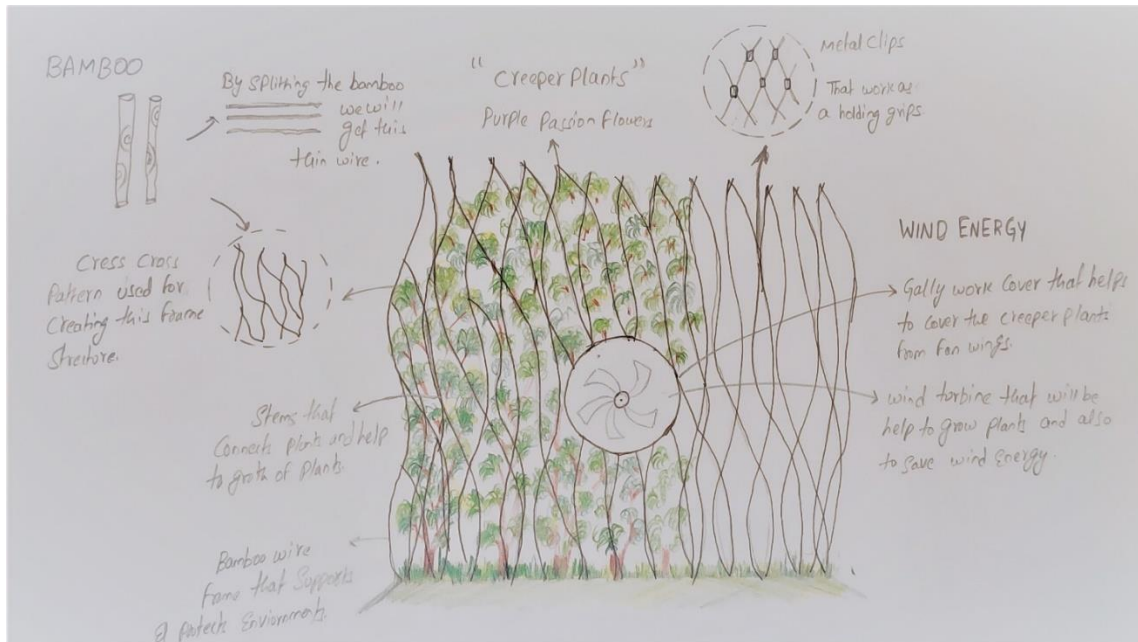
This Palakkad zone comes under zone III and indicates moderate seismicity. It is a natural phenomenon that might have a negative effect on human settlements and environment. Until 2018 August, when floods hit Kerala midline was considered as a safe place including hills. In case of zone 3 hazard map is prepared by the government of India. The entire Kerala state fall in the zone which medium vulnerable to natural calamities like flood, draught and earth quake.

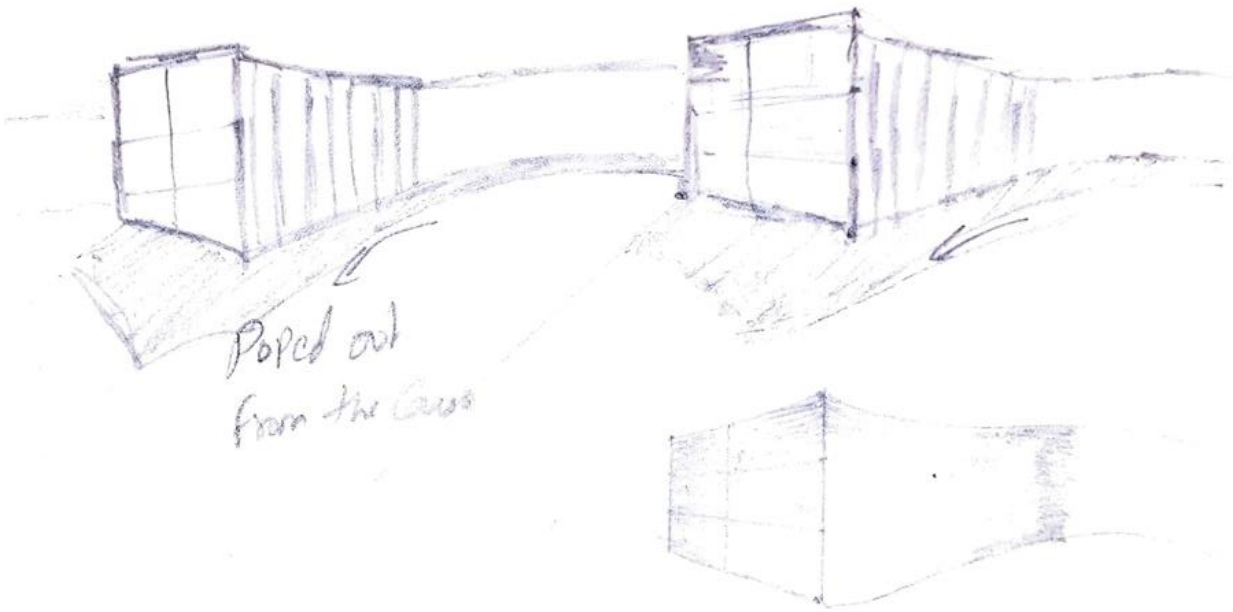
TOURISM & HERITAGE

Taking steps to improve the facilities and infrastructure at places with tourism potential. Kerala, promoted as the natural beauty of its own environmental heritage part in the country. It is blessed by the god to expose such beautiful Environmental conditions. It varies geographical features like beaches, hill stations, national parks & wild life sanctuaries. This is one among the other states in India that provides all kind of terrains for the tourists. To explore and get close to the nature and also Kerala stood up for various different things like it provides the oldest medical treatment that which heals people with natural calamities and with leaf's and with stems. This state is having 1/3 of India's green growth and provides backwater destinations and known for the best-known hill stations are Ponmudi, Munnar, Wayanad and Wagamon. Kerala has a number of well-known Wildlife reserves, including the Periyar wildlife sanctuary, Eravikulam National Park.

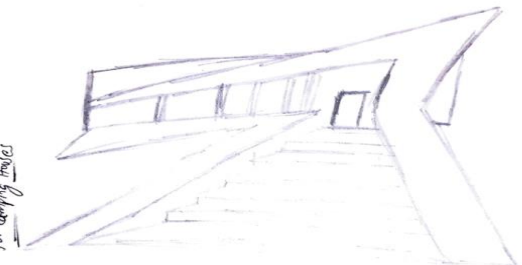
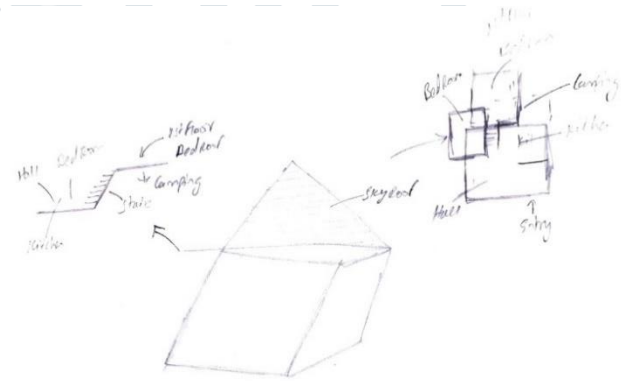
3. Results:

CONCEPTUAL SKETCHES FOR STRUCTURE

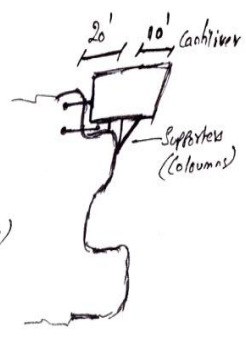
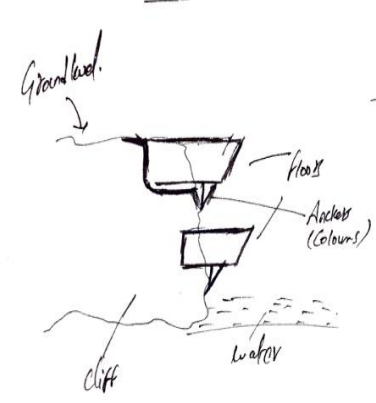
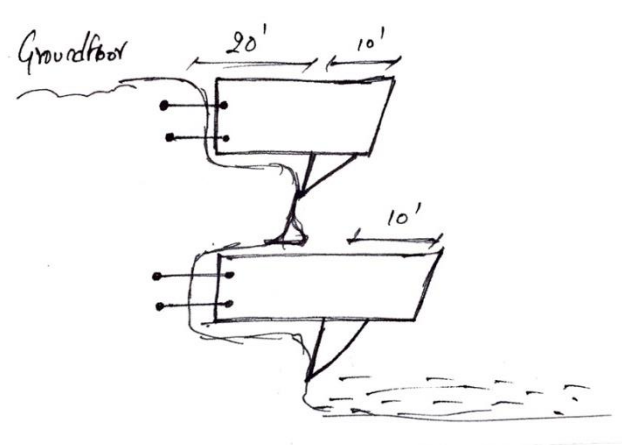




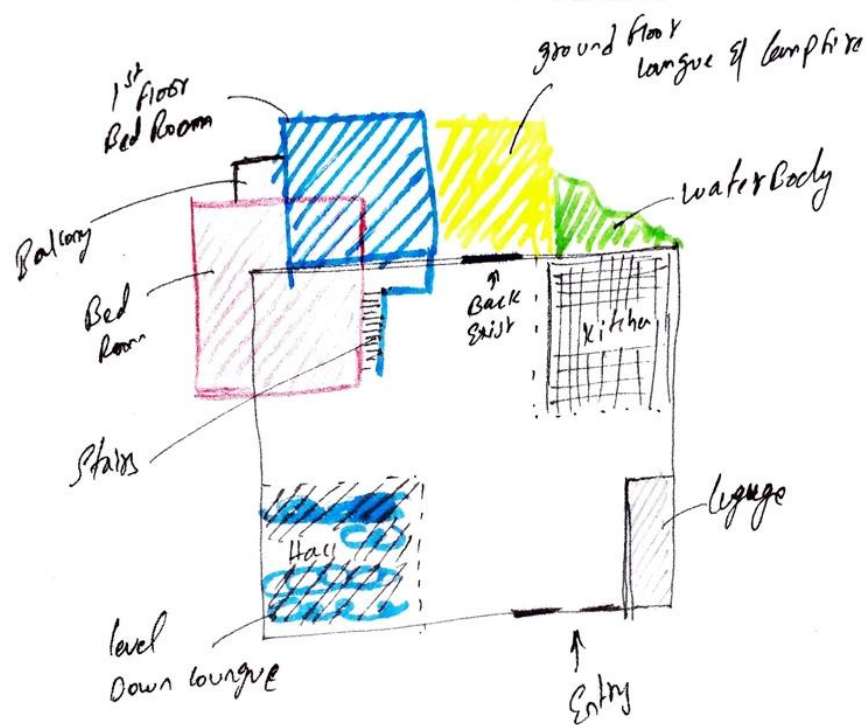
Concept - 8
for Camping houses



Structure Ideas



CONCEPT OF ROOM LAYOUT DESIGN



These are some of the concept development sketches that has made for developing the final plans on the site. These are the sketches that got inspired by some natural objects and the environment. The colors that are being used in this project are more nearer to the Indian culture and traditions to make harmonious environment. The levels of the site are more over contour so, we decided to make the use of that countour land to create the structural balance. The adaptive revitalization of the stone quarries should be commenced as measures to style cities more environmentally healthy and appealing.

4. Discussions:

This study aims to the awareness that a post-excitation strategy could be employed for abandoned quarries. The society cannot stop quarrying without compromising raw maetrials needed for a huge demand of our Industries and its process, but if we keep abandoning mines after they are not active any longer, we are deteriorating land-dwellings, contaminating nearby regions and allowing for the worsening of natural habitats. Revitalization of the pits is significant as that rises social approval of mining and shows that previous digging spots are not degraded areas, but adding value to the land and can also act as an element for the growth of the region. Revitalization is an importatnt component of quarrying which intend making distressed regions appropriate for sustainable practices and it's disappointing that such practices are not the part of norms. Restoration of excavations can produce so many optimistic economic, Social and ecological developments, that it only makes logic that quarries should be restored to the social order after resources are depleted post excavation.

5. Conclusions:

Due to increase of population and rapidly growth of the human settlements there is scarcity of land and there are different types of land settlements are being taking place. Rather than building sky scrapers and demolishing the agricultural lands and spending millions of rupees in making under water settlements we can use the land that was used for refining the minerals and left behind. This project of revitalization of quarries create an impact of protecting the environment and creating an land mark for the designers and the travelers by creating some shelter for the travelers by using the land that has been left behind for a long period of time.

Although stone mining is considered as disapproving trade that can disturb the environment. Due to usage of minerals is important for survival of human life this mining industry is getting unstoppable. With this project the economy growth of the nation will increase creating landmarks to attract more tourism. The Project will help to use a debarred land as a resource and to provide a habitable place for the people to reside.

References

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