

MUSEUM OF CATASTROPHE CULTIVATION CENTRE (MoCCULT)

Age of Cataclysm: Human Repercussion, An Awareness of Environmental Conflicts

Pulau Pinang, Malaysia is geographically located outside the Pacific Ring of Fire. Therefore, it is relatively free from certain severe crises found in neighbouring countries. However, Pulau Pinang is still vulnerable to natural hazards including floods, forest fires, tsunamis, cyclonic storms, landslides, and haze. Additionally, the effects of climate change have resulted in an increasing amount of environmental conflicts, resulting in a newfound threat to Malaysia's health and development.

Not only that, the threat leads to other issues which are post-disaster vulnerability (psychological pain, trauma & anxiety) which is affected by disaster relief operation by the government. The government is reactive as it will only act after the disaster occurred and did not see the policy as preparation for the future (Chan, 2012). Furthermore, the top-down approach; less public participation as Tierney (1989) stressed that mitigation may fail because the government exclusively used technical expertise and did not take into account social factors. The biggest factor in why people refuse to prepare is the normalcy bias, it's when people in denial that protects the mind from anything too far from an established baseline of safety.

In order to deal with the issues mentioned previously, an interactive Museum of Catastrophe Cultivation Centre (MoCCULT) was designed to create awareness, offer development and educate the public preconceived on disaster risk preparedness scheme in an urban community. This museum aids the disaster victim to do healing while providing an immersive experience and disaster-preparedness education for the non-disaster victim (layman). Located on a 3.07-acre land, this museum is open to the public, which allows people to experience the catastrophe/disasters event without facing it.

The programs were divided based on two types of visitors; Disaster-victim or Layman (Non-disaster-victim). From that, the site planning is divided into three separate zones; Experiential, Preparational and Healing zone, where visitors explore the series of disaster preparation, training and education and experience the phenomenology of disaster events in the museum through space design and artificial intelligence. Disaster victim visitors who previously experienced a disaster event will uphold the recovery process in the healing zone. The public zone, where visitors enter the museum, is located on the ground floor. Public facilities such as retail, souvenir stores, museum dining, and free-ticketing zone are placed on this level, providing a separation between the paid (private, semi-private) and non-paid area (public).

From the public zone, the visitors are then taken straight to the semi-public zone, where the paid area is placed. This area provides a phenomenology of disasters in Pulau Pinang, starts with Earthquake experiential, then landslide, tsunami, hurricane, flood, and haze respectively. On the other wing, training, workshop, seminar, simulation room of disaster event is running. As it provides experiential spaces that allow the visitors to strive, reflect and deliberate of life. Towards the end of the building lies the break spaces where the visitors can puncture to another program and rest.

The imageability of interweaving roof and debris is inspired from the story of catastrophe, in the senses of down turn and break, and narration as recounting in the senses suggested as it's suffering a catastrophe event. MoCCULT was designed based on certain design principle of Fragmentation, Superimposition, Distortion and Repetition based on Deconstructivism theories. The treatment of the building as sculpture is applied as the building is perceived aesthetically at all rotational angle.

As the building is to withstand the immersive experiential program, earthquake simulation for disaster management is proposed which integrate the field of structural engineering, cinematography, and 3D technology. Addition to that, the envelope engineering where 3D printed Glass Fibre Reinforce Concrete is applied to create a resilient, flexibility façade which inspired by fragmentation of catastrophic events. MoCCULT shows how the building can create a resolution in a "Conflict", through formal and informal cultivation.