

CIPADUNG GREENSCHOOL

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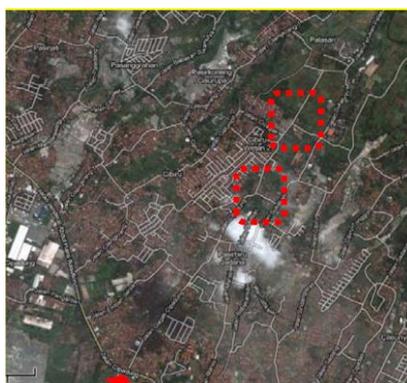
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Site Analysis

The site is located in Cipadung, a sub-urban area in eastern Bandung, the Capital City of West Java province, Indonesia. Bandung itself is a popular tourist attraction, both domestic and international. However, compared to its northern part, eastern Bandung is rather less developed.



Site Location : Jl. Cipadung, Kecamatan Cibiru, Eastern Bandung, West Java, Indonesia

Site Size : 15341.62 M2

Different from the northern part of Bandung, Cipadung don't have many commercial buildings, especially hotels. Most of buildings in Cipadung are private housing, although there are several convenience stores and schools. Therefore, the design to be made on the site would be

useful for the people of Cipadung itself. By building such function in the area of Cipadung, it could help to develop their way of living and also their economic condition. Not to mention the design's ability to enhance its natural environment.

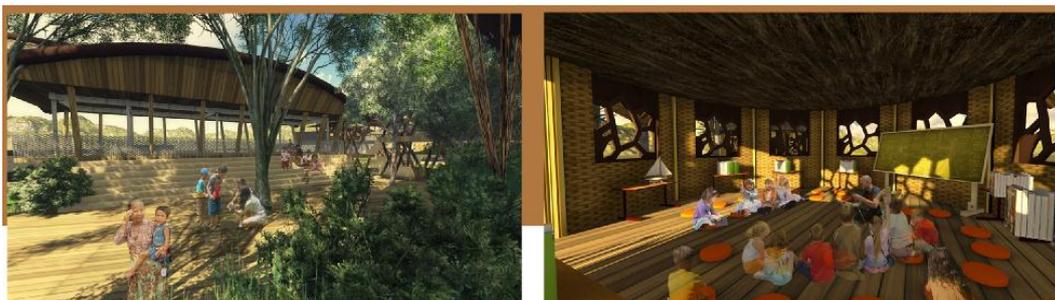
Intertwined Harmony

The main concept for The Cipadung Greenschool design is **Intertwined Harmony**. This concept defines the harmonization between the building with the social life and the natural environment. It also tries to make both society and the user of the school, become mutually involved in the "green life" as a style of living. It also tries to develop the society to become a more "sustainable and green society". Therefore, this design could generate a perfect harmony both in the social aspect and the environment aspect.



In the social aspect, the students and the staffs is sought to interact in a group or even bigger. So they could be socially involved with the society both inside and outside the school itself. On the other hand, the environment aspect aim to make the school in a harmony with mother nature. The classrooms are formed by the concept of forest, as each class liberately took the form of a treehouse to integrate itself as a part of the natural environment.

This concept also allows people not only to live with but also to live within the nature. The open spaces plans and the passive design treatment for the air circulation and also space circulation makes the user feels like living in a forest itself. It would encourage the user to feel closer with nature which would results on raising their awareness to preserve nature especially for the future of mankind.



However, seeing that to be able to fully preserve and protect nature, the subjects have to study the nature itself. Therefore this design of educational facilities allows the students to be as close as possible with the nature. Each one of these individuals would given the chance to learn about mother nature by experiencing it themselves. These direct learning would definitely brings more real and authenticated feelings and wills to protect the beauty of the nature and to be able to contribute useful things to the nature itself.

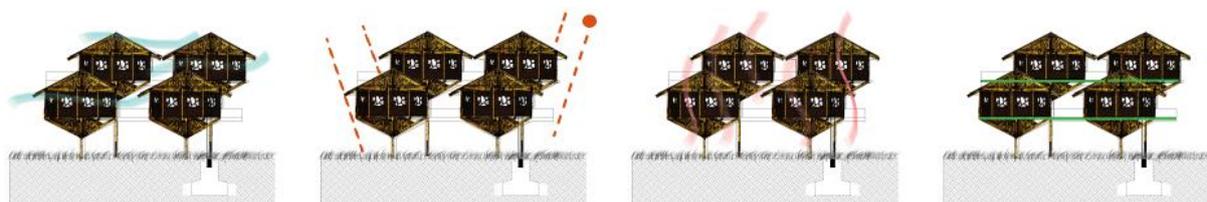
In addition to the concept of **Intertwined Harmony**, the mass order for the whole school was made after chaotic concept. The concept is derived from the “organic” characteristic of the nature which has no specific order, the design pursue to harmonize with the nature by using these barely organized order on the site.

Green Design

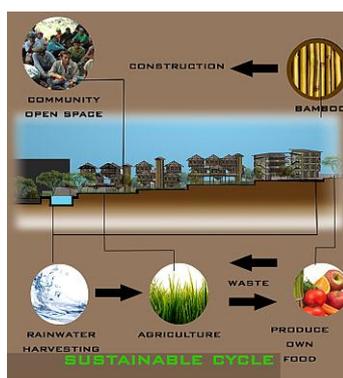
Passive Design



Through the open spaces within the design, the concept tries to remove the border between the outside and inside, brings the outside to the space inside, and took the inside to the space outside. This concept is defined by the use of passive design, by making open plan as much as possible. This passive design also affects air circulation, it makes indoor air could easily exchanged with new and fresh air from outside of the room. The design of the roof, also affect the temperature of the rooms below, the height of the roof itself makes the sun’s indirect heat won’t get through inside easily compared by using only flat roofs. The high and slanted roof also states itself as a design attitude for tropical climate area.



Other than the goal to preserve nature with their activities, they also tries to preserve nature through design by altering the site as less as possible. Therefore it minimized the usage of asphalt, ceramics, or other materials which will prevents water to be fully absorbed by the soil. Instead of using asphalt, the school use gravels and grass blocks that allows water to permeate through and get absorbed by the soil, this way it will maintain the soil’s condition in healthy state.



The passive design concept also applied in order to pursue a sustainable cycle. The site is designed to have a rainwater harvest pool which is used to rehydrate small farm inside the site, which will produce food for the user. On the other hand, the waste from either the food and the plants could be used as manure to enhance the farm’s growth. This way, the system shows that human could use nature for both nature and mankind’s benefit without damaging any aspect of the nature itself.

Sustainable Materials

The concept of harmony between design and nature allows the design to be built by using sustainable and easy-to-get materials, such as woods and especially bamboo. Both wood and bamboo are extremely obtainable and sustainable material in Java. Using these material it would also make the design easier to maintenance.



Green Lifestyle

The environmet where humans live will influence their lifestyle both directly and indirectly. I big cities, people tend to do things instantly since the environment around them always offers products that goes well with these “instant lifestyle”.



However in this modern time, the green school offers more traditional lifestyle. By living as close to nature as possible the user sobconsciously will develop a stronger mentality whom respects the process more than the products. These people will tend to use natural resource as the only mean to fulfill their needs, such as harvesting food from trees or farms and also from the fishpond. These lifestyle would develop a strong bond between humans as consumer and nature as producer, not as a party who will exploit it, but as a party who will preserve nature since they'll also suffer if the nature is damaged.

Minimizing Carbon Footprint

The use of bamboo and wood materials which doesn't need to undergo intensive maufacturing phase, this project won't produce as much carbon footprint as usual modern architecture project would. By applying natural finish for every materials of the building, it also minimizes the risk of air polution by chemical substances.

Both bamboo and wood are not only easily obtainable in Java, but also available in the highest quality and with reasonable place. The suppliers for both materials are scattered accross

West Java. Also, Java Island is known as one of the highest bamboo producer in Indonesia. The site itself was a grove of pine and bamboo trees, these existing resource could be used to fulfill several percent of material requirements which also would minimize the cost of transportating materials form far places.



Other means to reduce cabon footprint could be seen from the minimum number of cut and fill in the site. As a mean to pursue its concept by integrating the building with nature, the contour on the site was left barely altered. On the other hand, this also minimize the needs of heavy machinery usage which will emits a high level of carbon footprint.

The process to build the design also barely need heavy machinery use, since it wasn't made from pre-fabricated materials. These condition will also contribute on the low level of carbon footprint which will affect natural environment positively.