

GROWING YOUR OWN HOUSE!

REDUCING THE CARBON LEVEL

ABSTRACT

The promise of jobs and prosperity, among other factors, pulls people to cities. Half of the global population already lives in cities, and by 2050 two-thirds of the world's people are expected to live in urban areas. But in cities two of the most pressing problems facing the world today also come together: poverty and environmental degradation.

Poor air and water quality, insufficient water availability, waste-disposal problems, and high energy consumption are exacerbated by the increasing population density and demands of urban environments. Cities have clearly played a major role in the creation of the problem of anthropogenic climate change and they will form a central part of any response.

My research goal is to restore biodiversity back to the city. The design approach should deal with the current urban issues and future world's population. As world's population is growing rapidly and space is very limited, I think we have to invent a new design approach to our architecture. By implementing both biodiversity and architecture together, we could form a man-made ecosystem. The man-made ecosystem should allow us to live like normal and repair the climate at the same time.

According to "biodiv.org", at least 40% of the world's economy and 80% of the needs of the poor are derived from biological resources. In addition, the richer the diversity of life, the greater the opportunity for medical discoveries, economic development, and adaptive responses to such new challenges as climate change.

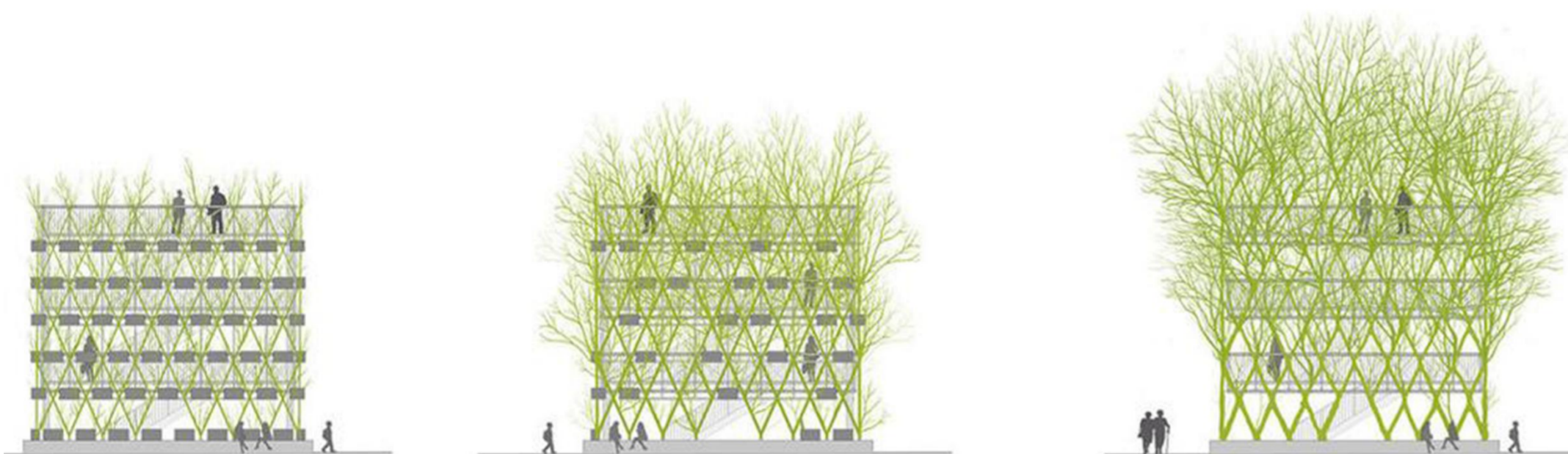


Figure 3: Baubotanik Tower



Figure 1: A high density city in Mumbai, India.



Figure 2: Highly dangerous pollution level in Mumbai, India.

PRECEDENT STUDY

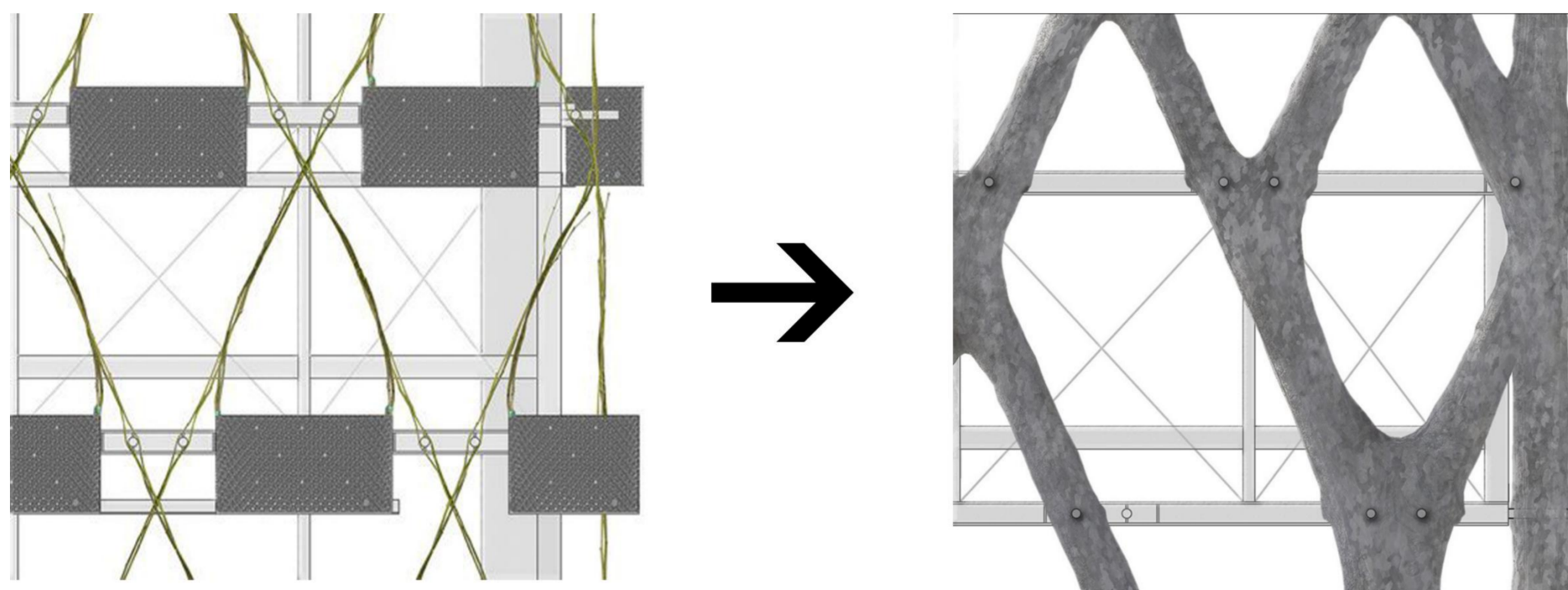


Figure 4: Baubotanik Tower Facade

The Baubotanik Tower is a test and demonstration building. It exemplifies new possibilities of engineering with living plants and visualizes the architectural and ecological potential of Baubotanik.

The building has a footprint of about eight square meters and a height of barely nine meters and consists of three walkable levels. It is the first baubotanical project, which was realized by using the plant addition method.

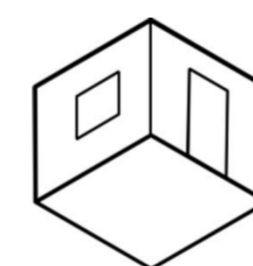
The whole construction is supported by a temporary steel tube scaffold, which is anchored in the ground by a screw base, which can be removed. The plant containers are constantly kept wet to ensure the necessary watering of the plants. On that condition, all plants will completely intergrowth with each other. Thereby it shall be examined how long it takes for the structure to get water and nutrients out of the ground independently.

As soon as the living structure is stable enough to support the ingrown levels and take over the loading capacity, the scaffold will be removed. Depending on many factors, this process can not be predicted. It is to be studied in this structure.

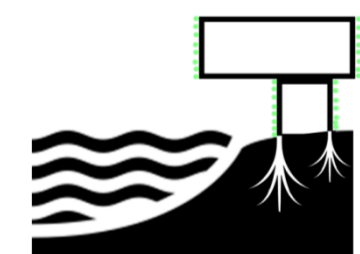
CONCLUSION

According to my research study, I have concluded Mumbai is going to be the most polluted and largest city from 2010 - 2100. Therefore, a design proposal is developing to target these urban issues. Hopefully, we could reduce the pollution level and restore the biodiversity by using the 'baubotanik' techniques.

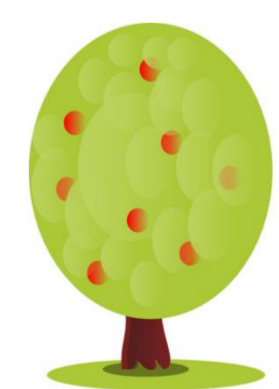
BENEFITS



A good Mumbai slum house costs £4,600 to build. But growing a tree is totally free!



Some people travel for hours to get food. Why not collecting some food above you?



In 2005, more than 14,000 homes were destroyed by floods in Mumbai, India. Do you know planting trees could help us reduce floods?



We used a lot of energy, carbon and time to produce construction materials. Trees could be the building structures too!