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THE VERTICAL CITY

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ABSTRACT

To develops a principle of living and working hundred stories high. its main objective is to prevent loss of farm land and natural green belt. It also helps in reducing air pollution since all the commuting is vertical where the distance are much shorter and transport mechanism much more efficient. It also reduces the need of all the road that serves horizontal cities so people can walkout in park area. The vertical city will be the new urban form that can solve densely populated cities problems.

Keywords: ***Vertical City, Vertical Transportation,***

I. INTRODUCTION

The vertical city is the first of its kind and has amazing solution to heavily populated cities. some features and benefits offered by the vertical cities:-

- Prevent loss of farmland and natural green belts.
- Reduces air pollution. Reduces need of all roads that services horizontal cities.
- Distance becomes much shorter.
- Transport mechanism is more efficient.
- In vertical cities we can cut down the consumption of energy.
- Support out growing population.
- Preserve our horizontal spaces and food production, nature and recreation.
- Vertical cities are solution for sustainable living.
- The vertical city will be much taller than any other current man made structure.
- It would be almost 2.5 times the height of burj khalifa and 7 times the height of empire state building.

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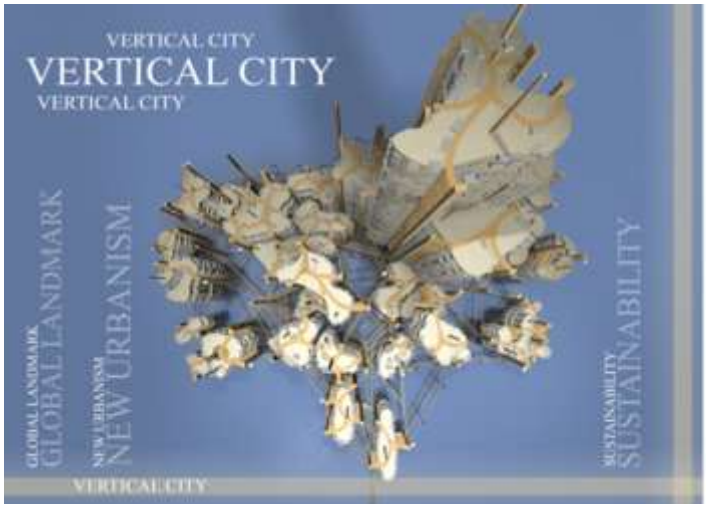


II. CURRENT STATUS OF DEVELOPMENT

The currunt interest in vertical city is coming from china. Explosive horizontal growth have caused huge essues of pollution, congestion and degradation.

THE DUBAI CITY TOWER IS ALSO KNOWN AS DUBAI VERTICAL CITY IS A PROPOSED SKYSCRAPER DESIGN ANNOUNCED ON 25TH AUG, 2008.

UNICEF predicts that as much as 75% of the global population could live in cities by 2050. Vertical cities could be a smart way to house all those people.

Since the 16th century, artists have imagined what these cities would look like — the earliest example was Pieter Bruegel the Elder's oil painting, "The Tower of Babel." Within the last decade, architects have started to make them more real.

Italian firm Luca Curci Architects designed a vertical city for the United Arab Emirates. Up to 25,000 people could live in their 180-floor skyscraper.

The building would sit in the Persian Gulf. The ambitious design features floors that host spas, meditation centers, a gym, and luxury hotel rooms. People could reach the vertical city by a bridge or helicopter.

Because these cities rise up rather than sprawl horizontally, they would reduce farm land waste. Vertical farming is 75 times more productive than traditional farming.

The firm designed an energy-independent structure. The solar panels, made of photovoltaic glass, can provide electricity and fresh water to the whole building. These buildings would reduce carbon dioxide pollution by up to 50%

III. MARKET POTENTIAL AND COMPARATIVE ADVANTAGES

Since most of the major cities of india is densely populated and heavily crowded which leads to hazardous development and decreases standard of living in terms of rise in air pollution, water pollution, soil pollution and many others including the horizontal development which leaves less lands for cultivation therefore the idea of vertical city development must be introduced.

IV. ADVANATAGES OF VERTICAL CITY

1. In environmental, points include the big one cure global warming, preservation of arable land, local food made without preservative or refrigerants.
2. In formal, maximize density and compactness for optimum efficiency in clustered ultra tall tower. Limit the project footprint to a 15 mins walk from one end to another.
3. In socio-economic/ political, mix uses to meat essential need for housing, employment, education, recreation, healthcare and other services, optimizing the efficiencies gain of centralized labor and consumption market by doing away with long wasteful and pollution commutes between home and work.

V. TECHNICAL DEATAILS

- Less area is consumed.
- Consist of 3 hundred stories.
- 200km/h vertical bullet train acting as main elevator.
- It consume 25000mwh electricity per year and the energy consumed will be generated by the city power itself as in form of wind, solar and thermal energy
- Amazing aerodynamic structure.
- The amazing design of the vertical city is both stablised the structure and spread out its mass.

VI. VERTICAL CITY – A FUTURISTIC INSIGHT

Cities will need to be denser and taller in the future. It's the only way to accommodate a global population of 9 billion-plus people and increasing demand for urban living (70% of us could live in cities by 2050, according to some projections). The alternative is surely worse: More sprawl taking up what little green space is left.

The concept of a "vertical city," as sketched out in a new book by architects Kenneth King and Kellogg Wong, is something more than a hyper-dense Gotham, though. Yes, there are a lot of towering buildings but also parks, schools, hospitals and restaurants at upper levels, as well. Essentially, it's a vision of a complete ecosystem in the sky—a place you never have to leave if you don't want to.

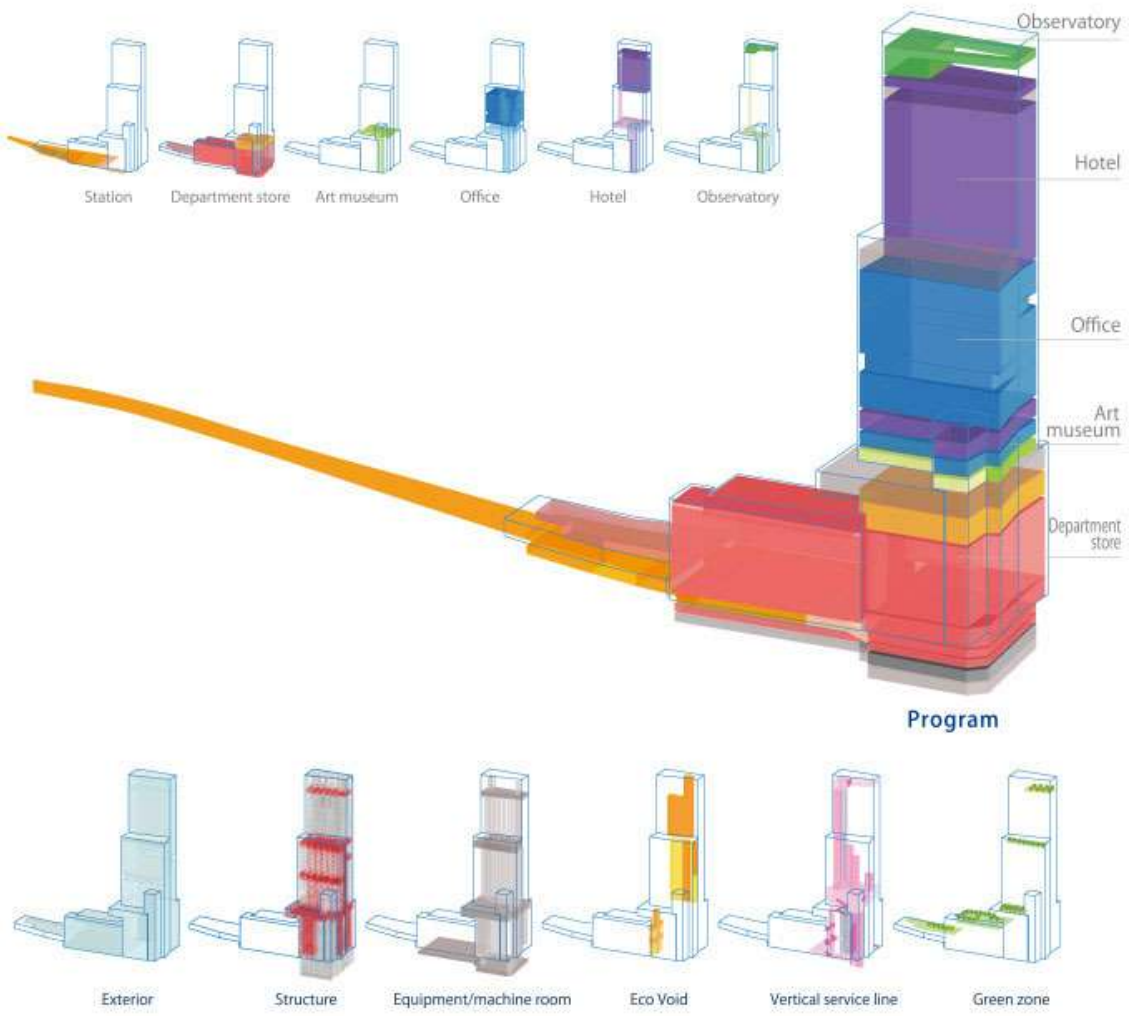
Here is how King and Wong define the idea:. . . high-capacity, high-efficiency ultra-tall buildings occupying a relatively small car-free, pedestrian-friendly parcel of land. Within this footprint are all the self-sustaining features

of infrastructure, buildings, facilities, and services necessary for improving the living, working, cultural, entertainment, sports, recreation, and leisure qualities of life for residents.

The vertical city is split into multiple levels. Near the bottom is a "raised multilevel podium . . . reserved exclusively for pedestrians and bicycles," they say. Below that, cars are "relegated to circulation and parking." Above, a first level contains utilities and infrastructure like water, sewer, and power storage plants. Further up is the "street level" with entrances to all building including a "mall-like mega-building."

Further up still are sky lobbies with "bracing/bridge connections" that make up "village centers" for shopping, drinking, socializing, and exercise. The building is made up of multiple towers each as high as one mile. The surrounding space is for farmland, which produces food, and also acts as a "buffer between existing urban centers and future Vertical Cities."

The buildings generate their own energy from renewable sources, use future materials like graphene and bioconcrete (which has fewer associated pollution than today's concrete) and mechanical innovations like rope-less elevators that can go to limitless heights. It's quite a vision.



VII. CONCLUSION

Proposals on urban development concepts for new vertical cities, obtained through a private and internal competition, have been introduced. Many proposals have shown deep insights into the current problems of the past development and importance of water, and architectural excellence. While the authors are fully aware, and the readers should be aware, that these proposals are still at the conceptual stage and will surely need detailed studies and new research and development, the authors are anticipating the advent of vertical cities in the near future.

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