Proliferation of the Tallest Building Syndrome: From Global to Local

N. Naz

Department of Architecture, University of Engineering and Technology, Lahore

Abstract

Since the dawn of human history, man has been striving hard to build high in order to make his mark on the world. Towers, pyramids, obelisks, cathedral's steeples etc. are perhaps the earliest architectural statements of the human urge to reach to the sky. From the late 18th century, the Industrial Revolution brought drastic improvements in iron manufacturing and construction. William Le Baron Jenney, an American Engineer and architect, development of load-bearing steel frame, which led to the "Chicago skeleton" form of construction made possible variety of skyscrapers in the later years. His Home Insurance Company Building, in Chicago constructed in 1885 was the first one to employ the frame structure. This revolutionized urban life because in higher buildings greater number of people could have been accommodated in limited areas. Over the time, in being home to the worlds' tallest building has become a major issue on the political agenda of many countries because of the stigma of economic prosperity and superiority attached to it. USA dominated the race for the title of the tallest building in the world during the first 90 years of 20th century. Malaysia acclaimed the title of housing the tallest building of the world in 1996 but soon after, Taiwan proclaimed the title in 2004. The futuristic contender is Dubai, UAE, where Burj Dubai is supposed to reach well over 2, 000 feet by the time it is completed in 2008. It seems that the story of the tallest buildings has no end and sky has become the limit. As it has become an icon of superiority therefore, tower blocks are soaring into South Asian countries regardless of their compatibility within the local context and Pakistan is no exception. Though, tall buildings are visually fascinating, but the horrified images of 9/11 has brought into focus scale of damage caused by such buildings during emergency. 10/8 earthquake in Pakistan brought another shock to the world and feasibility of high-rise buildings was slammed at the local level. The author's felt obliged to unfold socio-political forces behind high-rise construction leading to skyscraper in the West. As a first step, design philosophy of masterminds, rotation of titles, and psychophysical affects on human beings would be explored rather than tall buildings as single finished objects and how the other countries along with Pakistan joined the race and adapted these factors? Documentary resources, internet search, informal discussions with local professionals and personal probing constitutes major content of the research. Based on above, a separate research with special reference to major cities of Pakistan will be carried out. The author is convinced that such analysis would be beneficial in creating awareness among local architects, planners, builders and policy makers, in determining their future direction.

Key words: High-rise; Skyscraper; World Contenders; Economic prosperity; Human Aspects

We are convinced that the age of skyscrapers is at an end. It must now be considered an experimental building typology that has failed. We predict that no new mega-towers will be built, and existing ones are destined to be dismantled [1].

James H. Kunstler & Nikos A. Salingaros

1. Introduction

Throughout history of architecture, there has been a continual quest to build high. The effort to create something awe-inspiring resulted in a variety of architectural forms. At times mankind built Egyptian pyramids, Greek temples, Roman Triumphal arches. These structures shared in command of height symbolizing pre-eminence of man's communion with God, his engineering skill, power, wealth, his superiority above others etc. Previously, to bear the enormous weight of the upper levels of tall buildings, the walls at ground level had to be thickened making it impractical to build beyond certain limits. The Industrial revolution redefined these limits due to the invention of new materials, technology and construction methods which made possible to build wider and higher than ever before. Where monumental height once honored gods

Corresponding Author: N. Naz (neelumn@gmail.com)

and kings it now glorifies corporations. It has become an icon of superiority, civic pride and it is hard to imagine urban landscape without them. This has become one of the most competitive contests in construction and the "world's tallest" title passes regularly from skyscraper to skyscraper and country to country. As skyscrapers illustrate their significance not only in architectural history, but also as a reflection of mankind's most demanding and optimistic urges so tracing the evolution of these magnificent structures is imperative.

1.1 Popular Meaning of "High-rise" and "Skyscraper"

Terms "high-rise" and "skyscraper" are used simultaneously to describe tall multi-storey buildings however, while a skyscraper may always be a tall building, but the reverse is not necessarily true. Thus, all skyscrapers are high-rises, but only the tallest high-rises are skyscrapers. The somewhat arbitrary term high-rise should not be confused with the slightly less arbitrary term skyscraper. There is no precise definition of how many stories or what heights make a building skyscraper. But it is widely accepted that high-rise building is defined as "a building having many stories; sufficiently tall so the use of an elevator is essential" [2]. In terms of height bound a building which is 35 meters (115 ft.) or greater in height, and is divided at regular intervals into occupiable floors [3]. Today the term 'high-rise' is used to describe tall buildings with more than 9 stories exclusively enclosed and residential [4].

Originally, "skyscraper" was a nautical term for a tall mast or sail on a sailing ship. Cambridge Advanced and Learners Dictionary describe it as a 'very tall modern building usually in a city'. Around 1890, the term 'skyscraper' was first used to describe multi-storey office buildings being built in Chicago and New York as they seem like soaring into the sky. By the advent of World War 1, the term is used exclusively to refer to a tall habitable building with floors, usually higher than 150 metres (500 ft.). A skyscraper taller than 305 meters (1,000 feet) may sometimes be referred to as a supertall. The habitability criteria (residential, business, or manufacturing purposes) separates skyscrapers from towers. As the word "tall" is subjective, "skyscraper" has quite different definitions to architects and engineers. Generally, it is defined as a multi-storey steel building constructed on a steel skeleton, provided with high-speed electric elevators, and combining extraordinary height with ordinary room-spaces, such as would be found in low buildings [5]. Some structural engineers define a skyscraper as any vertical construction for which wind is a more significant load factor than weight or any superstructure tower in which static and dynamic forces are transferred directly to the foundations exclusively via a rigid or semi-rigid frame [6]. Now, all of these are not commercial enterprises and multi-use mixes such as housing and institutional uses can be well fitted into these structures.

The connotative meanings of skyscraper suggest that it is more than merely a superstructure. For the Modernists, these are "pyramids in steel and stock", "vertical city", "machine that makes the land pay", "symbol of triumph", "Vertical expression of corporate power", "topless tower of trade" etc. However, the traditionalists as a matter of reproachment associate them with "cigar boxes", "a phallic symbol", "symbol of arrogance", "sky-scratchers", "fly-scrapers", "monsters", "crowd-breeders", "publicity-getter", etc. The horrified images of toppling down of World Trade Twin Towers and the mega scale of destruction have altered people's perception towards these structures.

1.2 Contributing Factors

Skyscraper was the product of the American environment where wealth, power, influence, and ego flourished. It symbolized a man with unbounded energy, resources, technology and freedom could create. Architects, and the owners who financed them, invested their lives in these buildings, knowing their creations would stand long after the builders had gone. Stirred by the rivalry between architects and business tycoons obsessed with farthest, fastest, and tallest produced these structural marvels. The most mentionable are Isaac Merrit Singer, Frank Woolworth, Walter Chrysler, Alfred E. Smith, Sears, David Rockefeller etc (Figure. 1). After the First World War, the United States of America was ranked as the mightiest economic and financial power hence, a fresh picture of life emerged [7]. The golden boom of the real estate businesses (banking, insurance and law firms etc.) in the downtown areas of great cities of Chicago and New York, was in the air and expansion of the office market accelerated at a dizzying pace. Fashion designers, advertisers,

publishers, writers, aviators, painters, architects, and businessmen gave the spirit expressions never before seen or heard or read. The decade was best described by the New York state motto "Excelsior", means reaching upward to higher goals and a boy in Muncie, Indiana, who when asked by his Sunday school teacher to "think of any temptation we have today that Jesus didn't have" answered "speed" [7]. American dreams, power and urban buildings rose to spectacular heights as a prestige value: the higher the grandeur. Willis (1995) argues that architecture was reduced merely to business and buildings to machines that make the land pay the taller the building, the more money to be earned from the same parcel of land.

> *Current American architecture is not a matter of art, but of business. A building must pay or there will be no investor ready with the money to meet its cost. This is at once the curse and the glory of American architecture [8].*

Many geographical, commercial and technological developments during last quarter of the 19th century contributed to its evolution. Geographically, the pressures of increased land-values, urban accessibility, expanding urban population, globalization of urban economies, and locational preferences of businesses made the skyscraper in the developing world inevitable. Commercially, it has evolved as a mechanism of wealth creating out of a small piece of scarce urban land source. For the commercial developer, the higher the stacking, the higher the returns through rents derived from one place. Technologically, the skyscraper is the culmination of a number of structural and mechanical inventions [9]**.**

- Development of steel reinforced concrete, glass.
- Structural frame/cage construction in the 1890s with wind bracing.
- New methods of making piling and foundations.
- Perfection of High-speed elevator after 1887 and water pumps.
- Air-conditioning systems.
- Flush-toilets.
- Large pieces of glazing and window-framing.
- Advanced telecommunications and electronics.
- Advanced in-door lighting, ventilation and cleaning technologies.

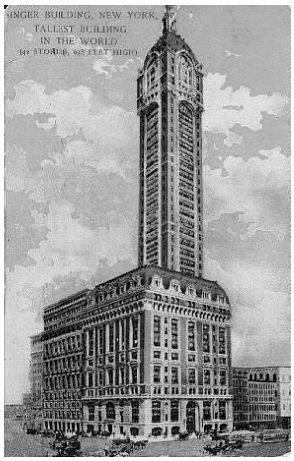
These scientific advancements coupled with functional requirements, land-use regulations, building codes, role of architects, and engineers became the major determinants essential to skyscraper evolution. Four significant phases of skyscraper design may be classified as the functional (1880 -1920), the eclectic (1920 - 1950), the modern (1950 -1970) and the post-Modern (1970 onward) [10]. The post-World World II era saw the advent of modern skyscrapers and international style began to take hold in the 1950s. They subsumed several forms: unadorned rectangular boxes, centralized, staggered, sky cakes etc. Starting around the late 1970s, the postmodern movement is a reaction against the stark simplicity and austerity of the highly functional skyscrapers of the Modernist era. The movement attempted to create new, distinct skyscrapers with their own unique, symbolic identities. Sullivan article entitled "The tall office building artistically considered" is the expression of his vision. He suggested that a tall building should be conceived as a "three part sky column": the base, the shaft, and the crest. He formulated a theory to evolve its form as under:

> *It must be tall, every inch of it tall. The force and power of altitude must be in it, the glory and pride of exaltation must be in it. It must be every inch a proud and soaring thing, rising in sheer exultation that from bottom to top is a unit without a single dissenting line [11].*

2. Evolution of Skyscraper

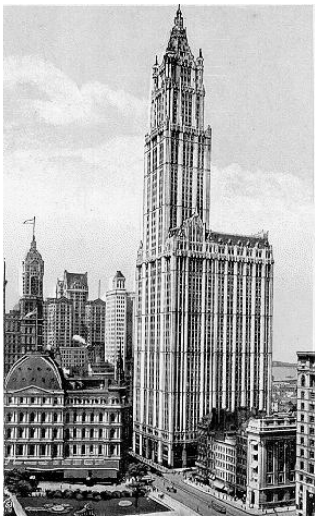
The skyscraper first emerged in the land-strapped areas of Chicago, Illinois and Manhattan, New York, toward the end of the 19th century. The Great Chicago Fire in 1871 was the beginning of a new metropolis, much greater than it could have ever become if the horrific fire had never happened at all. Chicago shaken and stunned by the fire but not dead; within days of the fire rebuilding began on a grand scale. It soared from the ashes like the fable phoenix and then passed the one million mark in population five years later. The vigor of the city's rebirth amazed the rest of the nation and within three years, it once again dominated the western united states.

Isaac M. Singer (1811-1875)



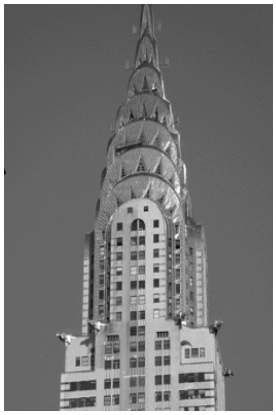
Singer Building (1908) 612 ft.

Frank W. Woolworth (1852-1919)



Woolworth Building (1913) 792 ft.

Walter P. Chrysler (1875-1940)



Chrysler Building (1930) 1046 ft.

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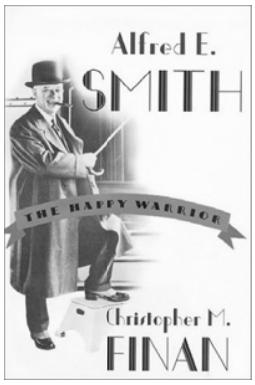
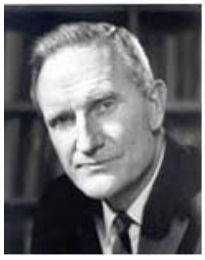


Alfred E. Smith (1873-1944)

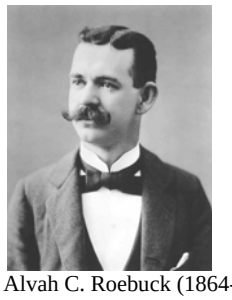
Empire State Building (1931) 1, 250 ft.



(Left)John D. Rockfeller 3rd. (1906-1978)
(Right) Nelson A. Rockfeller (1908-1979)

Former World Trade Center (1972-2001)

Richard W. Sears (1863-1914)



Alvah C. Roebuck (1864-1948)
(Sears, Roebuck & Co.)

Sears Tower, Chicago (1969) 1450 ft.

Figure 1: American Masterminds behind Early Skyscrapers

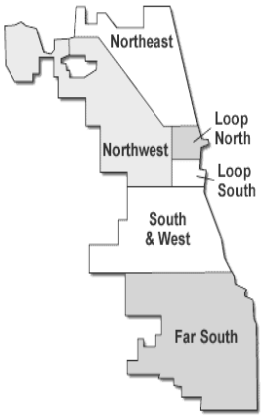


Figure 2a: Location of North & South &Chicago Loop

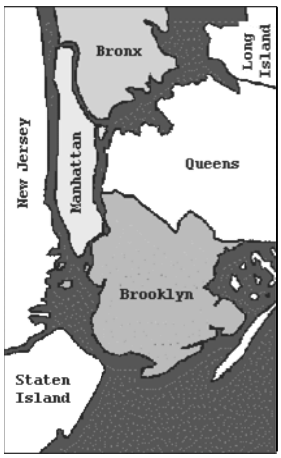


Figure 2b: Location of Manhattan, New York

It truly became a boomtown and home of many of the innovations that have resulted in the modern high-rise office building. Chicago's Loop completely cleared by the Great Fire became an ideal place for the world's greatest concentration of high-rise buildings (Figure 2-a). William Le Baron Jenney (1832-1907) is considered by many to be "father of skyscraper". His office was a well-known training ground for young architects, including Daniel H. Burnham, William Holabird, Martin Roche, and Louis H. Sullivan etc [12].

His greatest impact was the innovative use of structural steel which provided the opportunity to separate exterior building elements from supporting structure designed. His 10 storied 42 meters high (138 ft.) Home Insurance Building (demolished in 1931) is considered to be the first one to embody the general characteristics of a modern skyscraper. After his accomplishment, height quickly became a question of will and money, rather than art or engineering. The subsequent erection in Chicago of a number of similar buildings made it the center of the early skyscraper architecture. Fazlur Khan, a Bangladesh-born engineer who migrated here, gave Chicago its distinctive landscape, including the John Hancock Building, and, eventually in the early 1970s the tallest in the United States, Sears Tower.

In New York, "the capital of capitalism", three major factors combined to produce the city's first characteristic skyscraper form, the tower: high demand for commercial space, lack of regulation of building height, and the historic mapping of Manhattan with its first colonial pattern of streets and blocks, post-colonial skewed grids, and rectangular blocks of the 1811 Commissioner's plan [8]. After code approval of steel cage construction (iron frame supported the floors and the masonry walls bore their own weight) in 1889, in New York, office buildings regularly began to top sixteen and more stories. The island is so narrow and its trade center so near one end, that the tendency of each trade is not only to flock to one spot, but to crowd as near the center as possible, thus making the price of land down-town simply tremendous (Figure 2-b). Accordingly, the value of proximity in business produced a spiral of increased land costs, premium rents, and taller buildings.

The tallest office building to the end of the 19th century, the Park Row Building in New York was only 132 m (435 ft) high. Modern high-speed cable elevators, when introduced in 1900, greatly facilitated the construction. The prestige and advertisement also played a role in the construction of Metropolitan Life Insurance Tower (1909); pushing the tower into 700 ft. was clearly the competition to take the title of "world's tallest" from the 612 ft. Singer Building (1908), a monument to Isaac Merrit Singer, the manufacturing genius of the sewing machine. Then came Frank Woolworth, the five-and-dime store king, with 792 ft. tall Woolworth Building (1913) also known as "cathedral of commerce" to beat in the years ahead. At the heart of this race was a contest between the two prominent New York architects: William Van Alen and Craig Severance, former friends and partners. They had split over artistic and business differences and then set out to imprint their individual marks to take New York skyline to unprecedented heights; each would stop at nothing to undo his rival.

Table 1: The 10 Tallest American Skyscrapers [47]

S. No.	Building	Place	Year	Height (M)	Height (Ft.)	No. of Floors
1	Sears Tower	Chicago	1974	442	1450	110
	Former World Trade Center	New York	1972-73	417	1351	110
2	Empire State Building	New York	1931	381	1250	102
3	Aon Center	Chicago	1973	346	1136	80
4	John Hancock Center	Chicago	1969	344	1127	100
5	Chrysler Building	New York	1930	319	1046	77
6	Bank of America Plaza	Atlanta	1992	312	1023	55
7	Library Tower	Los Angles	1990	310	1018	75
8	AT&T Corporate Center	Chicago	1989	307	1007	60
9	JP Morgan Chase Tower	Huston	1982	305	1002	75
10	Two Prudential Plaza	Chicago	1990	303	995	64

Bascomb (2003) describes that Walter Chrysler, an automobile giant, loved machines and thought that with science and invention the world could reach some sort of apotheosis. Obsessed with the ego to have a taller building of a finer type of construction he told architect Van Alan to travel, study buildings in Western cities, and examine their designs and use of materials. "Improve upon them to the best of your ability…spare no effort or time" [7]. To give Chrysler the best, Van Alen could hire whomever he needed, spend whatever he needed. But Chrysler fantastic 805 ft. tall skyscraper, a place for his two sons to work, with steel sheathed tower completed in 1930 was dwarfed within a short span of one year. The Empire State Building was completed in 1931 and retained the title of "world tallest building" for 41 years. Bascomb (2003) describes that the ticket for the opening of the Empire State Building on May 1, 1931 was the most difficult invitation to get in town.

> *When the clock struck 11:30 A.M. Herbert Hoover, President of United States, in Washington, D.C., pressed a golden telegraph key wired to the Empire State, and the lights brightened throughout the skyscraper. The illumination revealed the large mural opposite the Fifth Avenue entrance. On the dark marble wall the Empire State was outlined in strips of stainless steel set over a map of the northeast United States and bordering Canada…On the eighty-sixth story tables and chairs were spread across the observation floor for a celebratory lunch. Al smith waved his bowler hat to the guest to follow him to go around to the elevators that took them to the observatory deck and sated [I would like you to remember you are eating higher up in the air than any human being has ever eaten. There may have been loftier meals on mountain tops or in airplanes but not in buildings. This is the world's record. At noon when Franklin Delano Roosevelt, Governor of New York, arrived by his black limousine, Smith stood up to read a telegraph from the president congratulating him on the completion of the skyscraper and assuring that it would [long remain one of the outstanding glories of a great city][7].*

The World Trade Center in New York consisted of 2 towers; one completed in 1972 and the other completed in 1973 took over the title of the tallest building in the world from the Empire State Building. In 1969, Sears, American midrange chain of international departmental stores, announced to build a new headquarter building in downtown Chicago. With the completion of Sears Tower (442 m.) in 1974, the title once again shifted to Chicago and held on for 24 years. Though New York held on the title for most of the 20th century but presently, Chicago is housing the America's tallest building (Table 1).

During late 20th century, a historic shift of economic boom took place in Asia triggered by an inexpensive labor, infusion of foreign capital and the countries shift to free markets. Fast-growing Asian countries, Malaysia, China, Hong Kong, Taiwan, etc, propelled by their rapidly expanding economies, are now

home to most of the tallest buildings in the world (Table 2). Eight of the top ten of the building on the list is found in Asia--with five in China, alone--and all were built in the last 15 years [13]. In 1998, 452 meter tall twin towers constructed in Kaula Lumpur, Malaysia dwarfed the Sear Tower and became the champion of the "world's tallest building". At the advent of 21st century, Taipei designed by C. Y. Lee & Partners, grabbed the title when 508 meters tall Taipei 101 was completed in 2003 (Table 3). It has a further distinction of being located in an area where the incidence of earthquakes and high winds call for major design innovations.

Currently, the question of which is going to be the world tallest building by the end of this decade is generating a great deal of interest and excitement. The historic race to sky has no limits and now UAE is struggling hard to win this battle. The futuristic contender for the height record: the Burj Tower in Dubai, UAE is under construction and supposed to reach well over 2000 feet by the time of its completion in 2008. Exactly how high it ultimately will be is still a mystery and purposeful one, as the builders do not want to make it easier for their record-setting construction to be surpassed. The first South Asian country, India, is the next contender to claim the title in the next decade where record breaking skyscraper in Noida, New Delhi, India is at a design stage. According to the architect/contractor Hafeez, "We want this building to show to the world what India can do."

> *The 710 meters tall (2, 330ft) skyscraper, is said to have been designed to resemble the peaks of the Himalayas and scheduled to be open for business by 2013. It will contain a 50-floor five-star hotel, a 40-storey glass atrium and 370,000 sq meters of shopping centers" [14].*

Kazakhstan, one of the top oil and gas producer Central Asian State, is going to be among the 50th industrial country of the world. Establishment of a new capital, Astana in 1997, design by Japanese architect Kisho Kurokawa has become the most vibrant, cosmopolitan, western-styled city. [15]

Table 2: Number of tall buildings in different major cities of the world [48]

Sr. No.	City	Number of Tall Buildings
1.	Hong Kong	7,548
2.	New York	5,503
3.	Sao Paulo	4,250
4.	Singapore	3,711
5.	Seoul	2,842
6.	Tokyo	2,636
7.	Rio de Janeiro	2,177
8.	Istanbul	2,108
9.	Toronto	1,655
10.	Buenos Aires	1,540
11.	Moscow	1,504
12.	Kyiv	1,455
13.	London	1,347
14.	Madrid	1,164
15.	Caracas	1,114
16.	Chicago	1,051
17.	Santiago	880
18.	Beijing	848
19.	Sydney	834
20.	Shanghai	793

Table 3: Top 20 Tallest Buildings of the World retrieved from [49]

S. No	Building	Place	Year	No. of Floors	Height in M.	Height in Ft.
1	Taipei 101	Taipei, Taiwan	2003	101	508	1667
2	Petronas Towers 1 & 2	Kuala Lumpur, Malaysia	1998	88	452	1483
3	Sears Tower	Chicago, U.S.A.	1974	110	442	1450
4	Jin Mao Building	Shanghai, China	1999	88	421	1381
5	2 International Finance Centre	Hong Kong	2003	88	415	1362
6	CITIC Plaza	Gouangzou, China	1996	80	391	1283
7	Shun Hing Square	Shenzhen, China	1996	69	384	1260
8	Empire State Building	New York, U.S.A.	1931	102	381	1250
9	Central Plaza	Hong Kong	1992	78	374	1227
10	Bank of China Tower	Hong Kong	1989	70	367	1205
11	Emirates Tower 1	Dubai, U.A.E.	1999	54	355	1165
12	Tuntex Sky Tower	Kaohsiung, Taiwan	1997	85	348	1140
13	Aon Center	Chicago, U.S.A.	1973	80	346	1136
14	The Center	Hong Kong	1998	73	346	1135
15	John Hancock center	Chicago, U.S.A.	1969	100	344	1127
16	Shimao International Plaza	Shanghai, China	2005	60	333	1093
17	Ryugyong Hotel	Pyongyyang, N. Korea	1995	105	330	1083
18	Q1, Gold Coast	Australia	2005	78	323	1058
19	Burj Al Arab Hotel	Dubai, U.A.E.	1999	60	321	1053
20	Chrysler Building	New York, U.S.A.	1930	77	319	1046

The nation is using oil wealth into remaking its capital city into a gleaming modern metropolis housing world tallest skyscrapers in the time to come. At a ground-breaking ceremony for the U.S. embassy in 2004, then-Ambassador Larry C. Napper said that "in the American Embassy, we like to call this place the Field of Dreams" [16**]**.

3. Pakistan Scenario

Pakistan is the third fastest growing major economy country after China and India in Asia [17]. The country is far behind the global race of skyscraper but gaining impetus by her growing economy. President of Pakistan, General Pervez Musharraf, at the groundbreaking ceremony of the development and rehabilitation of Mai Kolachi and M.A. Jinnah Roads said that "We have to project that Pakistan is a big country. We are on the rise, we are moving ahead. We are a forward moving dynamic nation." [18]. He announced that Karachi Port Tower (KPT) to be constructed on artificial islands with 1,947 ft. would be among one of the 10 tallest buildings in the world. Concept behind this tower is to portray the new vision, strength and unity of the nation. In recent years, there has been a rash of high-rise buildings to boost the national income. Taipei architect Carl Shen states that throughout Asia, "there has been no compunction about tearing down old buildings to make way for development" [19]. Pakistan is no different; building by-laws are being revised to gain more heights and major city roads being transformed from low-rise to high-rise sky line. Architects heartily embrace the challenges of building tall structures.

History of the tall buildings in Pakistan is not very old and goes back to the construction of first high-rise building, Habib Bank Plaza 311 ft. high in 1963 on I. I. Chundrigar Road, Karachi. It enjoyed the title of the "tallest building of South Asia" for a decade and the "tallest building of Pakistan" for more than 40 years. Muslim Commercial Bank (MCB) 350 ft. high Tower constructed on the same road surpassed it in early 2005 (Figure 3: a, b). So far, no high-rise building in Pakistan exceeds the limit of Park Row Building in New York (435 ft.) built in 1899 but the urge to achieve record-breaking height is on the escalation. It has become a popular political jargon and the news to construct the skyscraper makes and news such as "city to

Figure 3a: Habib Bank Limited, Karacahi

Figure 3b: Muslim Commercial Bank, Karachi

have tallest building", "Skyscraper allowed" make headlines in the newspapers. Lahore District Nazim Mian Amir Mehmood approval to construct a 40-storey LDA complex (412 ft. high) is still controversial. 55 storeys Sheikh Zayed Trade Centre approved by the Punjab Chief Minister, Ch. Pervaiz Elahi, is under construction near Kalma Chowk, Ferozepur road, Lahore. Many other proposals for the towers and skyscrapers are currently in line for approval.

Karachi, Lahore and Islamabad are expanding at an unprecedented rate and real estate has become a major pastime of those in power. It is commonly known that in the building industry corruption is deeply rooted than in any other sector. This reputation does not stem from a lack of building codes and zoning laws, but from builders who profit from bypassing codes. According to Roland, over 200 high-rise buildings erected between 1995 and 2000 do not comply with codes. [20] Builders tamper with approved plans of commercial plazas and get approved through illegal gratification. Cowasjee (1999) with special reference to Karachi Building Control Authority (KBCA) and Cantonment Boards points out that none of these authorities makes any attempt to exercise any building control and, with rare exceptions, their officers and staff, from top to bottom, are corrupt and purchasable [21]. Use of effective and substandard building materials by contractors is a matter of common practice. Incidents of fire eruption due to short-circuiting have become a common scene. Pace Departmental Store, Al Fateh Store and H. Karim Buksh departmental store suffered from fire in 2001, 2004 and 2005 respectively. There is a severe public reaction and petitions are made in the courts against the illegal construction of commercial plazas but the builders and building inspectors most of time find an easy escape. G.M. Baltistani in a letter to the Editor writes:

> *"I have serious reservations about the proposal to construct some 50 high-rise buildings in Islamabad along the Blue Area extension in F-8 and G-8. The capital's topography is unique because of the Margalla hills and this unique natural feature has made Islamabad to be known as one of the most scenic capitals in the world. The amazing Margala hills can easily be seen even from Rawalpindi city. The construction of high-rise buildings along the Blue area will simply block the view, apart from spoiling the overall image and skyline of Islamabad"[22]*

The catastrophic earthquake on Oct. 8, 2005 in the Northern areas of Pakistan brought to the surface latent state of affairs in connection with the building practices and ability to meet with

natural or man-struck disasters. The collapse of 12 story Margala Tower in the capital city, Islamabad, has raised a number of questions about the safety and construction quality of upcoming high-rise projects. Firstly, It became visible that the quality of workforce and supervision of high-rise buildings by the authorities is non-existent as wells as defective system of the institutions dealing with emergencies. Secondly, violation of guidelines given by Doxiades, planner of Islamabad, not to construct buildings higher than five storeys for seismic considerations [23]. In the light of national tragedy, Dr Ijaz Painter, painter, teacher and conservationist, vigorously opposed the idea of 40 story LDA Complex in Lahore and stated:

> *"They take high-rise buildings as a symbol of economic prosperity irrespective of the state of their other economic indicators. Even in the developed world, high-rise buildings are not constructed by choice. Instead, they are planned to overcome constraints of space. But here in Lahore we do not have any such constraints…it's strange that the district government has publicized its plan at a moment when the horrific images of Margalla Towers falling to the ground are still fresh in our memories. It's strange they have not learnt any lesson from the historic tragedy that has hit us recently" [24].*

By all accounts, globally the skyscraper race is far from over. There are more than 50 proposed buildings that would break the current record [25]. Some of the more conservative structures are already in construction but the more ambitious buildings in the group are only theoretical at this time. According to some engineering experts, the real limitation is money, not technology. Experts are divided about how high we can really go in the near future. Some say we could build a mile-high (5,280 ft, or 1,609 m) building with existing technology, while others say we would need to develop lighter, stronger materials, faster elevators and advanced sway dampers before these buildings were feasible. Future technology advances could conceivably lead to sky-high cities, many experts say housing a million people or more.

Super tall buildings would require extremely sturdy materials deep, fortified bases. Construction crews need elaborate cranes and pumping systems to get materials and concrete up to the top levels. All told, putting one of these buildings up could easily cost tens of billions of dollars [25].

Whether modern man would be able to actually get there is another question. But despite the chaos generated by these superstructures, experts being obsessed with pride argue that we might be compelled to build farther upward in the future, simply to conserve land. They are of the view that skyscraper cities would also be very convenient as more businesses can be clustered together in a city, reducing commuting time.

4. Establishment of Tall Building Councils & Museum

The topic of the highest building in the world is one of great controversy. Many towers claim the title, and many cities quarrel about who houses the tallest building in the world. To resolve the controversy and other related issues "The Council on Tall Buildings and Urban Habitat (CTBUH)" was founded at Lehigh University in 1969 and moved to the Illinois Institute of Technology in 2003. Although its stated mission is to study and report "on all aspects of the planning, design, and construction of tall buildings," it is best known to the general public for its compilation of the World's 100 Tallest Building rankings. The ranking of tall buildings was originally based on a building's height from the sidewalk level of the main entrance to the architectural top of the building. In 1997, the Council decided on four factors to identify the tallest building: height to the structural top, height to the highest floor, height to the top of the roof and height to the top of an antenna. In response to the rapid growth of tall buildings throughout Asia due to population pressures and economic development "The Center for Asian Tall Buildings and Urban Habitat (CATBUH)" was established in 1997 in the Department of Civil Engineering at the University of Hong Kong.

Event of 9/11 highlighted the need for integrated building systems to respond quickly emergency situation to reduce the damage caused. Conference on "Building for the 21st Century: Technology, Livability and Productivity" held in London in December 2001 was the first global conference in the building industry. One

of the important findings of the Task Force was that we needed more public education on how buildings work and what can be done, from the perspective of the building's occupants and owners, to make buildings safer [26]. Another platform which brings together international experts in the field of tall building design, construction and management was founded in 2004 titled as "Tall Buildings Teaching and Research Group" at the University of Nottingham's Institute of Architecture.

To preserve America's new building typology Skyscraper Museum (SM) was founded in 1996 by Carol Willis, a professor of Urban Studies at Columbia. The Museum relocated its headquarters several times before finding permanent home at the southern tip of Battery Park City in October 2003 and is located six blocks from the site of the former World Trade Center. The Museum is devoted to the study of skyscrapers past, present, and future with the focus to examine the historical forces and individuals that have shaped its successive skylines. It also explores tall buildings as objects of design, products of technology, sites of construction, investments in real estate, places of work and residence through exhibitions, lectures, programs and publications.

5. Human Responses to Tall Buildings

The man's proudest invention, received severe criticism and setback within less than half of century of its evolution. Many international award winning high-rise projects were pulled down due to the resulting degraded social environment. The experts started making investigations for the failure of symbols of economic pride and technology. A conference entitled "Human Response to Tall Buildings" was sponsored in 1974 by the American Institute of Architects in collaboration with the Joint Committee on Tall Buildings [27]. The intent of the conference was to bring to the surface whatever empirically derived research existed on this theme. The report presented indicated areas of caution for the designers and managers of tall buildings but refuted the notion that all tall buildings are bad for all people in all circumstances. However, David Cooperman noted that research carried out by the scholars from variety of social and design sciences which attempts to test out arguments about social aspects of tall buildings and morbidity effects is fraught with problems in design, methodology, and technique and agreed about the need for analyzing both subjective and objective data.

There is clearly no consensus on methodological problems nor on techniques for their resolution. Hence, it is not surprising that current research may be lacking in those qualities that would systematically advance our knowledge. This has serious implications for policy and design decisions [28].

It was realized that these mega structures are a part of the urban system and intimately concerned with the quality of complete life system of our society. So planning and design of tall buildings is concerned with much more than safe and economical structure of the engineer, energy efficient systems, and esthetic solutions by the architect. Dr. Thomas C. Kavanagh, charter member of the Council's on Tall Buildings and Urban Habitat, strongly urged the need to recognize the broader aspects of the impact of high-rise buildings which, extends to the surrounding communities and affects adjacent cities.

> *It is a matter of evaluating the contribution which the high-rise building makes to the urban environment, its effects on the local community, regional life, on the land use and even space use, on the social and human factors, and the need for communications, contact, choice, opportunity, and mobility which underlies the very existence of cities [29].*

Experts have been investigating human response to the impacts of tall buildings from four distinct groups: user, nonuser, developer, and planner. It is ironic that each of the group uses a different ordering of priorities in evaluating situations concerning high-rise buildings. A developer will accentuate economic return, while a resident user may feel that comfort and proximity to place of work are paramount. The resident nonusers, however, may be most concerned by neighborhood congestion. The impacts are most conveniently categorized as economic, environmental, political, social, and technological [30]. Architects, engineers and developers major concerns of economic, political and technological may apparently improve the cityscape for the comparative minority. However, the social and environmental impacts of their mega structures for the majority of urban residents are devastating. Appleyard & Fishman (1977) on

their research have formulated the impacts as under [31]:

- Each city wishes to be unique, but high-rise buildings from city to city are increasingly similar to each other. They are part of the trend towards homogenization of a world culture.
- Increased densities of people and motor vehicles generated by intensive development in a limited area. Hidden effects of cumulative high-rise development, vast consumption of energy, sharing of city resources etc. may be even more severe.
- The role of high-rise buildings in the symbolic disruption of a city's image has been an increasing source of public resentment. Tall buildings devalue existing symbols and once considered heroic and respected buildings are reduced to toy-like dimensions. They also produce dramatic physical changes by virtue of their size and design.
- The visual qualities (scale, shape, view blockage, color, street character, prominence etc.) of tall buildings and the message concerning power and identity are read more widely than the professional communities. Public concern is more important than an individual establishment.
- The impacts of artificial nature created inside the tall buildings are relative overtime such as emotional sickness.

Architects and engineers see mainly the buildings as structures, functional spaces, or as sculptural forms and seem like working in a vacuum generally ignoring such impacts on the urban environment. The architect usually designs his buildings for a physical environment whose meaning is unknown and therefore easily devalued. Two frightening fires which broke out in high-rise buildings in New York in 1970 brought into focus acute fire safety problems during natural as well as man-generated emergencies. When elevators stop working and stairwells are covered here and there with fallen materials, the situation is ripe for a fire holocaust, especially if panic develops [32]. Reports presented in the proceedings about the Human Response to Emergency indicate that most of the skyscrapers built during the office building boom of the 1960s and early 1970s are problematic.

These buildings present the most fire safety problems because of design changes, which include open air spaces, movable walls, modern furnishings and sealed windows to optimize the effectiveness of central air-conditioning. All of these design features contribute to the rapid spread of a fire after it has started. In addition to the fire hazard, central air-conditioning ducts provide an excellent smoke pathway [33].

Professor Bryan Lawson considers life in tall structures unnatural and states, "Living away from the ground seems unnatural, and yet can be quite exhilarating. We are above 'the madding crowd' and can observe without being observed…but it remains impossible to wander in a skyscraper and thus it is the interior arrangement of each floor which determines the social order in a way quite different to that found in traditional buildings" [9]. Akira Suzuki, Director of the Workshop for Architecture and Urbanism in Tokyo, shares similar views "Life in the sky constitutes, paradoxically, a distancing from nature. The generation of children raised in skyscrapers all wants to play in virtual worlds" [9].

As an aftermath of 9/11, collapse of the proudest American invention hassled to a broad, public re-examination of all buildings. The televised images of symbol of US Economic pride were deeply shocking when both 110 storey towers collapsed in less than two hours burying thousands of office workers and rescue personnel under tons of debris. All of southern Manhattan was evacuated, federal workers were sent home, schools were shut down, and U.S. airspace was closed for the first time ever, stranding thousands of travelers both in the United States and overseas. Speaking at a mental health summit in New York two months after the attack, Secretary Thompson said that the anguish that accompanied Sept. 11 is going to stay with some people for a long time. He added that emergency workers responding to crises could show signs of psychological distress up to three years after a tragic event [34]. Dr. Andrew Baum, professor of psychiatry at the University of Pittsburgh stressed "We have seen events like these in movies or in other countries, mostly in unreal contexts. This is such a horrific event that people need to distance themselves from it to process it [34]."

Despite its short urban history, these have become the most dominating form in the world

largest cities. The experts are suggesting corrective measures to rectify design mistakes at the outset. Many multidisciplinary research studies focusing on included aesthetics, facilities (open spaces, parking), physical design, sense of nature, economic considerations have been carried out to explore negative and positive attributes of tall buildings. Kenneth Yeang two publications: "the Skyscraper bioclimatically considered" published in 1996 and "The Green skyscraper" in 1999 provide guidelines for designing sustainable tall buildings.

….bioclimatic skyscraper as a tall building whose built form is configured by design, using passive low-energy techniques to relate to the site's climate and meteorological data, resulting in a tall building that is environmentally interactive, low-energy in embodiment and operations, and high quality in performance [9].

6. Analysis and Discussion

Since the dawn of history, man has been striving to build high to reach to the heaven and glorification. Designing and building a skyscraper was akin to God creating alluring forms. During the last decades of 19th century, mechanical and structural innovations enabled architects and engineers to push modern buildings higher than the previous limits. America was home to many of the innovations that have resulted in the modern skyscraper. In fact, skyscraper is part of a much largest set of sky buildings: pyramids, obelisks, towers, spires, pagodas, which were transformed and finally became habitable buildings. Infused with social change (the increase in the number of office workers), and geology (a downtown limited in area by surrounding water) transformed Chicago and New York City from an expanse of low buildings to a forest of skyscrapers. New York in the 30s, Malaysia in the 90s and China today all has used tall buildings to showcase their economic boom to the world. Chronicling building construction from the Home Insurance Building, Chicago in 1885, culminates with the Former World Trade Center in 1972-73 and coming in full circle, with the Chicago's Sears Tower, completed in 1974. During the last decades of 20th century, fast-growing Southeast Asian cities became home to most of the tallest buildings in the world. The current champion of the world, Taipei 101, like many buildings before may not stay at the top of the list for long. New York's Freedom Tower, designed to replace the World Trade Center, will reach a height of 1,776 feet and hot behind the Freedom Tower is the Burj Dubai, which is supposed to reach well over 2,000 feet by the time it's completed in 2008. It's also worth noting that none of the top ten are found in Europe.

Despite controversial history, it has become hard to imagine the modern city landscape without skyscraper. The race to build higher and higher continues, as tall buildings have become symbol of economic power and only evidence of progress and development. The literature review indicates that skyscraper is distinctly American and it embodies the nation's unprecedented freedom and emphasis on reason. The dominating business corporations, tremendous egos and avaricious appetites of the CEOs and speculators gave rise to these monuments. The heroes were unchained corporate giants who built self-named monuments to house their employees and reshaped cites' skylines according to their values. The skyscrapers reflect their spirit infused with speed, greed, exuberance, romance, innovation, pride etc. Stolen height titles, ruined careers, vicious reviews, miserly neglect, lost fortunes, and terrible accidents-these may seem to be the legacy of the skyscrapers race. Undoubtedly, the builders were fat-cat-industrialists and financers who hired the top names in architecture, but they all came from humble background [7]. It seems that to satisfy their egos was of primary concern and they had never learned the process of thinking about other people. At the cost of economic and other short-term benefits they lowered the man to the status of a dwarf.

The collapse of WTC on Sep. 11, 2001 has turned the clock and marked the symbolic death of tall buildings at its birth ground. It has led to heated debates among experts about their assumption and public re-examination of the vertical hegemony. Today tall building has become a puzzling and paradoxical package and there are contradictory opinions about their failure and success in urban settings. So far human response about the future of tall buildings keeps on oscillating between three propositions such as:

- Tall buildings are awful and should be outlawed for human habitation
- Tall buildings are just great and appear to be the wave of the future
- Tall buildings are inherently not at all times wrong but in certain situations (economic,

cultural, topographic, etc.) this may be the only alternative available

Proponents of the last theory argues that as skyscraper cannot be ruled out as a future building type so how it can be made meaningful to the urban environment? They think that skyscraper will provide society with the means to live and work in creative contact and avoid the destructive spilling-out of cities as an urban sprawl into the countryside [9]. Jeffery McCarthy, managing partner at Skidmore, Owings & Merrill in Chicago argues that the skyscraper of course has many advantages for the packed cities of the world as they provide more room for open spaces, allow people to come together in greater density and support clustering of companies, particularly financial services. It is the nature of the urban landscape and it is required by companies [35]. Lepik (2004) argues that skyscrapers are not only a source of amazement at street level they also often offer humans a chance to effortlessly scale a certain height by means of a breath-takingly fast elevator. Skyscrapers are symbols of major economic, structural and architectural achievement. According to him, skycraper give large numbers of people the chance not only to enjoy dizzying heights for the short duration of a unique view, but also to live, to work and to eat together in man-made chains of architectural peaks. They are endlessly progressing, self-fulfilling utopia [11]. As there is still going to be a commitment to the high-rise buildings, therefore experts are suggesting corrective measures to rectify design mistakes at the outset.

Proponents of the first theory however, argue that the tall buildings may look technological wonder but the virtues of skyscrapers can also be weaknesses. Their long-term impacts are devastating; a fact that cities embodied such structures are rapidly finding out. Eugene Kohn, president of Kohn Pederson Fox Associates states that there would be no proposals for 100-storey buildings in America for a long time. William McKee, chief executive of the British Property Federation considers that people may well think twice about ultra-high levels. Henry Law, Publicity Officer in his report "NEW INQUIRY: TALL BUILDINGS" submitted to the Urban Affairs Sub-committee argues that:

In general, the construction of tall buildings is uneconomic, since additional costs are incurred, for example, through the need for more sophisticated foundations, lifts, and design generally. There are also higher running costs, for example, the need to maintain lifts, higher costs for maintaining the external fabric of the building and additional costs of heating due to the greater exposure of external walls. Tall buildings would, in the normal way of things, only be constructed where land values were so high that these additional costs were justified [36].

Yeang despite introducing the concept of Sustainable skyscraper, in an interview expresses similar views "Skyscrapers are really not sustainable structures at all. If we do not have to build them then we should not. Generally, these structures use up 30 percent more energy and materials to build and operate. However, this is a built form that will not go away until we have an economically viable alternative" [37]. Other than economic non-viability, there are social and psychological problems.

In the old world cities and in the cities in the East where the gridiron street plan did not exist, the new skyscrapers can also generate undesirable problems, destroying existent streetscapes, creating a line of island sites along previously arcadian boulevards, and introducing new problems of tall built form relationships with the city block and with the city city's skyline. "When the cities of Asia come to resemble their European counterparts, as clusters of skyscrapers, the concept of geography will inevitably disappear from the earth" [9]. China, despite its distinctive architectural heritage is losing its identity. "One consequence immediately visible to every recent visitor to China is that cities which were once quite architecturally distinct are becoming almost indistinguishable, as generic mega-structures, both commercial and residential, rise on the rubble of local building traditions. The speed and blithe efficiency with which the traces of the country's urban past are being erased have led critics like Dai Jinhua to predict that the signature urban form of twenty-first-century China will be the "city without memory" [38].

Jane Jacob "*The Death and Life of Great American Cities*" her single most influential book on urban planning is a strong critique of the urban renewal policies of the 1950s which, she claimed, destroyed communities and created

isolated, unnatural urban spaces [39]. Another voice raised against the skyscraper is of the architect and urban planner, Constantine Doxiades:

> "*My greatest crime was the construction of high-rise buildings. The most successful cities of the past were those where people and buildings were in a certain balance with nature. But high-rise buildings work against nature, or, in modern terms, against the environment. High-rise buildings work against man himself, because they isolate him from others, and this isolation is an important factor in the rising crime rate. Children suffer even more because they lose their direct contacts with nature, and with other children. High-rise buildings work against society because they prevent the units of social importance -- the family ... the neighborhood, etc. -- from functioning as naturally and as normally as before. High-rise buildings work against networks of transportation, communication, and of utilities, since they lead to higher densities, to overloaded roads, to more extensive water supply systems -- and, more importantly, because they form vertical networks which create many additional problems -- crime being just one of them [40]*.

Peter Blake condemned mega-towers in *Form Follows Fiasco* on several points. One was the disastrous wind shear that their surfaces created; the other was fires that had burned out of control in two skyscrapers in Latin America. He warned the world that:

" *It is outrageous that towers more than a hundred stories high are being built at a time when no honest engineer and no honest architect, anywhere on earth, can say for certain what these structures will do to the environment -- in terms of monumental congestion of services (including roads and mass-transit lines), in terms of wind currents at sidewalk level, in terms of surrounding water tables, in terms of fire hazards, in terms of various sorts of interior traumata, in terms of despoiling the neighborhoods, in terms of visually polluting the skylines of our cities, and in terms of endangering the lives of those within or without, through conceivable structural and related failures*" [41].

Christopher Alexander's Pattern 21 and 62 described in his famous book titled as "A Pattern Language" are relevant to the ongoing discussion. His Pattern 21 highlights that "there is abundant evidence to show that high buildings make people crazy. Therefore, in any urban area, no matter how dense, keep the majority of buildings four stories high or less. It is possible that certain buildings should exceed this limit, but they should never be buildings for human habitation" [42]. The Pattern 62 focuses on that "the instinct to climb up to some high place, from which you can look down and survey your world, seems to be a fundamental human instinct. Therefore, build occasional high places as landmarks throughout the city. They can be a natural part of the topography, or towers, or part of the roofs of the highest local building -- but, in any case, they should include a physical climb" [42].

Leon Krier, Nikos Salingaros and Jim Kunstler among other respected intellectuals, urbanists and architects have thouroughly demolished the myth of the American skyscraper, and demonstrated its failures as a valid contemporary urban typology. Kunstler and Salingaros in their article "The End of Tall Buildings" published by PLANetizen in September 2001 argue that overloading any given urban center, tends to prevent the organic development of new healthy, mixed urban fabric anywhere beyond the center and refer it as "urban hypertrophy". In all cases and to some degree, high-rise buildings deform the quality, the function, and the long-term health of urbanism in general by overloading the infrastructure and the public realm of the streets that contain them. They are convinced that some of the sturdiest and even aesthetically pleasing tall buildings of the early 20th century are only now approaching the end of their so-called "design life" [1].

They propose that within the upper limits of proven traditional type, it might be prudent to confine future constructions to, perhaps, ten-story office buildings, whose four bottom stories are strictly residential. Coexisting with the first type might be five-story residential buildings with a commercial ground floor devoted to retail and restaurants. Both of these are a good compromise between traditional typologies.

The tremors are felt not only in the professional circles but in the monarchy as well. Charles Philip, the Prince of Wales while addressing the Invensys Conference, London held on 11th of

December 2001 on Tall Buildings states that I suspect that the destruction of the World Trade Center is unlikely to mark the end of tall buildings in cities, although it may require rather more to be expected of them before new ones are constructed. Doubtless, the challenges of finding ever more sophisticated ways to evacuate people in the event of emergencies, or devising more resilient engineering, will become more dominant in the future architecture of skyscrapers. In my view, very tall buildings can undoubtedly threaten this sensitive balance. Indeed, they may very well wreck it.

> "*Towers, of course, have long been very much a part of many historic city skylines (although at a considerably lower height than those being proposed today). But these Renaissance, Georgian and Victorian contributions to the skyline were usually as much associated with the notion of balance and hierarchy as the lower buildings around them. This, of course, was because towers were almost entirely reserved for monuments with a special ecclesiastical or civic status. Yet the "skyscraper" in its modern form is something very different. Most obviously, it is a building whose function is utilitarian and commercial, rather than civic or sacred; a so-called "statement building" that is self-referential, and fulfilling no communal purpose whatsoever*" [43].

He makes a comparison of Manhattan and London and spoke out courageously against mega towers, and was consequently accused by architects and the media as being 'against progress':

> "*Now it is true that there are some places where towers and streets have worked successfully together, and one thinks immediately of the example of Manhattan, with its uniform grid. Yet Manhattan is, and will remain, unique in sheer scale and wealth, and its towers are, of course, far from the whole story of the city of New York" [43]*.

There are also evidences those skyscrapers, once considered as the "generator of money" barely covered their operating cost. Bascomb (2003) points out*:*

The world tallest Empire State Building earned the nickname of "Empty State Building". With couples hosting rent parties to pay the landlord and street corners crowded with men selling apples, these skyscrapers were evidence of what had brought them to such a state of affairs. The two brothers William Starrett and Paul Starrett labored for decades shaping the city skylines with skyscrapers across the country with their greatest as the Empire State Building. They poured all of their energy into the skyscrapers race, and once completed they had nothing left to give. William Starrett fell victim to overwork and long nervous strain and passed away in 1932 [7].

Philip Johnson, a builder of many tall buildings interview to Judith Dupre' is an eye-opener. While responding to a question he says:

> *In the commercial world, the skyscraper came into existence because we didn't have any religion to express. But it was an expression, not the result of economic needs. It was an expression that wanted to reach the heavens - whether Mr. Rockefeller at Rockefeller Center or the Chicago architects…I have to say the skyscraper is finished…Because there is no economic need for them. It's pride. Skyscraper will always be expensive, they will always b extra. In our times we can certainly celebrate the culture with illustrations of skyscrapers. Our way of looking at life is best expressed by the skyscraper. I mean the American culture in that great phase of the skyscraper. They have stopped building tall buildings here for whatever reason* [44].

In Pakistan, there is a severe public reaction against the illegal construction of high-rise commercial plazas. During hearing case of illegal multi-story plazas on 5-7-2007, Supreme Court Justice, Khalilur Rehman Ramday criticised that building mafia has turned Lahore into jungle (forest) and ordered the demolition of illegal "Asim Tower". He directed the Chief Minister Punjab to form a Building Control Authority comprising members of transparent record [45]. Institute of Architects (IAP), Lahore Chapter organized a seminar on 6-7-2007 entitled "Lahore Building By-Laws". Prominent architects slammed politicians to maneuver such projects and to make frequent increase in the building height limit. There was a consensus that chaos in the building practices along with other ills was spoiling the visual quality of Lahore. Architect Hanif Daud, award winner of "Excellence in Architectural Design 2005" in his article focuses on the awe of

plagiarism and mindless aping of the West. For Example, KPT Tower, Karachi greatly resembles the CN Tower, Toronto. He writes:

> *"Unqualified borrowing of prepared designs from elsewhere, without permission of any sort, is an expanding phenomenon…Prevailing trends in architecture displays a rising number of projects developed on stolen designs, debunking the originators and deceiving the society at large. Further disappointing is the fact that many undertakings in this respect are large scale governmental building complexes…Creativity is compromised on the yearning to earn a quick buck" [46]*

In the light of foregoing discussion there is no clear generalization to support or oppose but it is clear that world over tall buildings have become a phobia. It is noteworthy that this trend is declining at its birth ground but escalating in other regions of the world. The city's housing tall buildings are gradually finding out that they may look technological wonder but can also cause serious problems. Europeans never expressed inclination to join the race and tall buildings were installed by their conservative attitudes. As the soil, climate and requirements vary from city to city and country to country therefore, uniform approach to the places and spaces may be cumbersome. In Pakistan, where building industry is one of the most corrupt and construction business enjoys the patronage of land mafia there is need to move with caution. The supervision is non-existent and the quality of manpower is absolutely zero. Cities are badly suffering from pollution, energy crises and traffic congestion. Stigma of un-checked growth of high-rise buildings is transforming the traditional physical and social fabric of cities.

Despite public reaction and court verdicts politicians in Pakistan seem obsessed with tall structures as an indicator of economic prosperity. This is to play like an ostrich and to ignore hard ground realties. It appears that in the process of economic prosperity the right lessons are being discarded for the wrong ones. Spending billions of rupees in unproductive areas by making corresponding cuts in essential areas indicates their short sightedness. There is a need to initiate debate at all levels questioning about the future of high-rise buildings. Architects instead of jumping on the bandwagon must analyze their local context before taking up such projects. Crucial issue for the Pakistani architects and politicians could be to meet the developer's commercial objectives without making compromise on the long-term benefits. If they take a step back, look at who designed and drove these structures to such great heights in America perhaps they would come to different conclusion. It is high time that politicians, building controlling agencies, architects and builders join their hands to save cities of Pakistan from becoming breeding places of sky-pickers. Planning and Development departments should be strengthened by employing experts from relevant organizations to set up new trends of construction in the country. To make our cities sustainable buildings ought to be designed in harmony with human scale and local context. In Pakistan high-rise is taking high risk therefore, out of the rubbles of the October earthquake, a bright legacy should arise.

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