

TALL BUILDINGS IN THE DEVELOPING COUNTRIES
WITH SPECIAL REFERENCE TO CAIRO

I

The phenomenon of tall buildings in developing countries is very much different, in essence and form, from the same phenomenon in the developed world. This difference came as a result of three basic facts. First, the developing countries are predominantly rural societies. Fifty percent of their populations -if not more- are still living in rural areas. Their cities -old as they are- are mainly administrative towns with activities related directly or indirectly to agriculture. Industry and industrial centers are new to them. Needless to say that the developed countries are not only industrial for two hundreds years, but also they have been using new and advanced technology with all its potentialities in practically all walks of life. Their developed economy could support the luxury of tall buildings while developing nations fall in what is commonly known as the Poverty Belt.

Secondly, the socio-economic change in the developed countries is relatively orderly and predictable. This is not the case in developing countries. Their change, fast and almostly uncontrolable, has bypassed all trials to

contain it or even to guide it. The change here is self-propelling and self directed and it continues to be this way despite all successive planning attempts. Planning, national, regional or local fell down under roaring forces of change. This unprecedented situation led us to serious problems : fast increase in population, social instability, strained economy between ambitions for progress and limited possibilities, unevenness in population distribution and massive migration from rural areas to major urban centers.

Thirdly, developed societies are generally homogeneous societies. The developing countries suffer from cultural heterogeneity. They are old nations deeply rooted in social traditions and religious values. During the Eighteenth and Nineteenth centuries and till mid Twentieth century, most of the Third World in Africa and Asia fell under the Western influence. The West carries with it to these lands Western thought and Western systems in administration, education and in all other fronts of civil life. The Westerners built for themselves their own communities with Western concepts of planning and architectural styles. They made room in their new neighbourhoods for the upper class and ruling elite of the local societies who tried to acquire Western patterns of living as their new way of life. The old city is left almostly unchanged for the 'Natives' living. We end up with two different

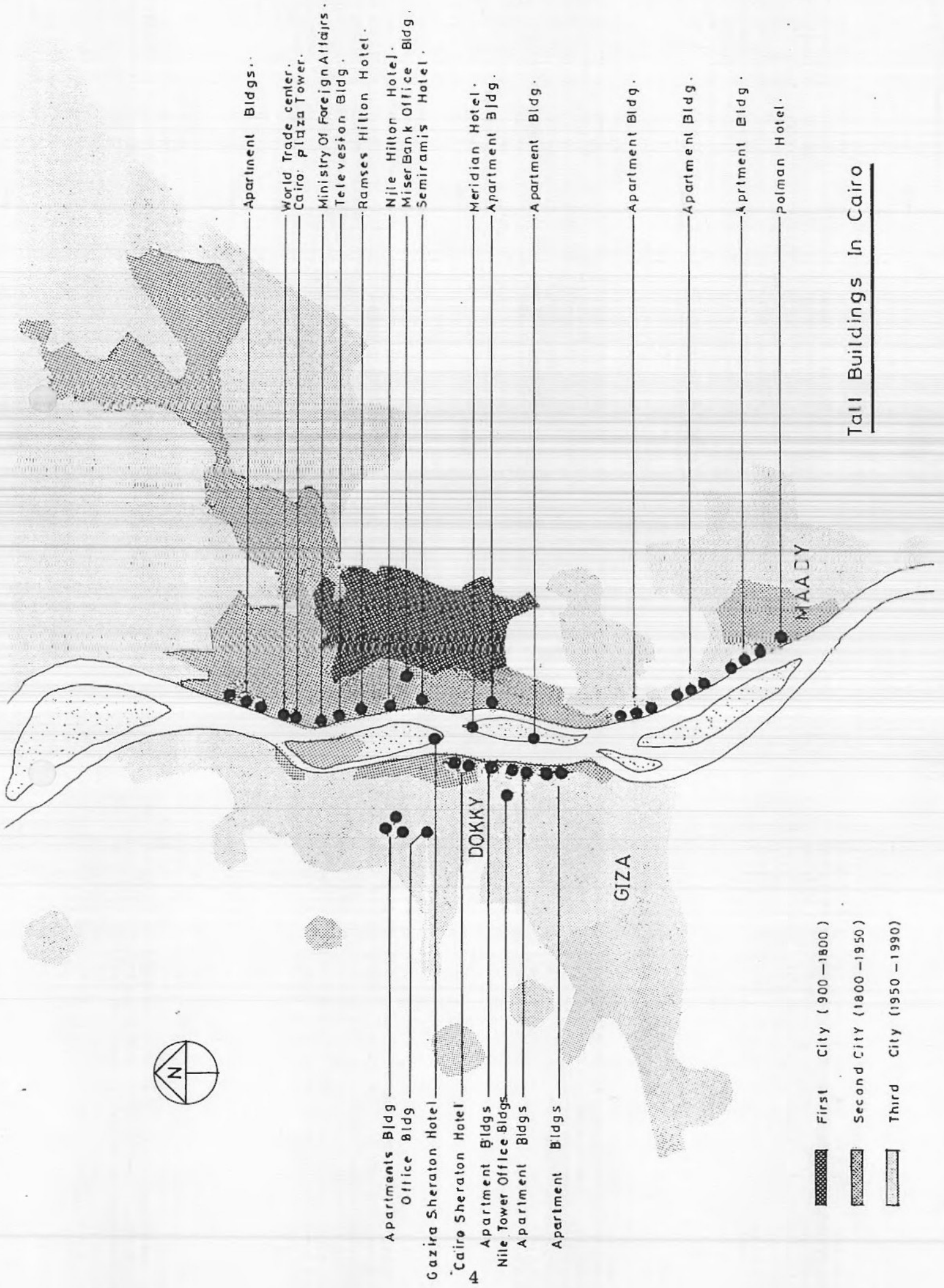
cities and two different cultures set side by side with no real channels of communication between both of them. With the growing influence of the West, these societies were faced with value conflicts and gradual loosing of self identity.

The last fourty years witnessed shrinking of foreign influence, fast increase in population, great migration from rural areas to urban centers and uncontrolled social change. New neighbourhood, built to meet the increase in population and new comers from other regions, could be defined here as the Third City. Built fast and without real planning, it lacks true architectural and urban merits. It does not have the traditional culture of the old city, nor the imported Western culture of the second city and it never had the time nor the chance to develop a culture of its own. We can easily assume that the third city has been living in a state of disorder.

In brief, in the same developing country we literally have more than one culture and more than one economy. In other words, it is a society of of a multi-socio economic systems.

II

Nobody could tell the "Tale of Three Cities" better than Cairo. The similarity between aerial view of Cairo and the



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Tall Buildings In Cairo

vertical face of a cliff in an old terrain is striking. In the latter layers of rock belonging to different geological ages are set one over the other. The oldest layer is at the bottom and the more recent ones come on the top with clear line marking each age. We have the same situation in the City of Cairo. The base line is at Al-Mokattam Hills in the east. Next to it is the old Islamic Cairo, surrounding the old city, circle after circle of neighbourhoods built successively in the course of history. The modern communities are on the peripheral and they get older as we move inward towards the Islamic Medina. The city grew through its history in fan-like shape. The pattern of growth was always the same; a leap to the outside by the upper class followed by the middle class leaving the low class behind. When this circle got completed, it was followed by another leap to the outside and the movement continued till it reached its last form nowadays. Each circle keeps its historical characteristics - physical or human - clearly identified with marking lines separating one era from another. Cairo in reality -as the case with a geological cliff- is a cross section in history. With the beginning of the Nineteenth century the Western influence gradually increased in almost all walks of life especially in business, politics and culture. Till the mid of Twentieth century, Cairo layout expressed the realities of the time. A strong Western presence, growing capitalism

with growing Egyptian elite and middle class and Western model of liberal form of government. New neighbourhoods were built westward between the old city and the River Nile. Some of them were exclusively residential for foreign communities. The others were reserved for the Egyptian ruling upper class. The neighbourhoods were well-planned according to European standards of that time: wide streets, green areas and low population density. The architectural style varies considerably from English countryside houses to Italian villas to French chateaux and Neo-Islamic Palaces expressing a romantic notion of oriental mystery. Both the planning and the design expressed the life style of these classes.

We should refer here to the City Business Center. It was in layout and form a Parisian quarter planned by French planner in the mid Nineteenth century. Straight streets perpendicular and diagonal, orderly squares, French style of architecture, equal heights of buildings and European stores gave this district its Continental characters. It was predominantly occupied by European business and professional community (its hotels and streets were a set for classic novels by French and English Novelists of that period). Here in the center of the banking district the first tall building in our modern history was built in the late thirties of this century. While the second European styled city reached its final form in the first half of

this century, the old Islamic City remained the same preserving its planning character and architectural style and resisting any change coming from outside. It remained introvert, a world of its own.

The third city was built in the last forty years since the country regained its independence and became free of Western influence. It is four times the size of the first and second cities put together. It houses alone seventy percent of the population of Greater Cairo. It spreads in all directions especially westward by passing the river to the Giza side. Its expansion was fast and unplanned to meet the accelerated increase in population and great migration from all other regions in the country especially rural areas as stated before. Informal housing began to appear at a high rate on the urban scene. (80 percent of the housing stock in Cairo is informal). It lacks order, culture and character. In the last fifteen years of this era the country changed its path from a centrally controlled economy to an open-door policy for private sector and foreign capital investment.

The business center has moved from its traditional site to cover other residential neighbourhoods. The overlapping of activities in each of these neighbourhoods has added considerably to the present urban disorder. Most of the business enterprises particularly those which came in the

wake of the open-door policy are centered around the two sides of the River Nile. The river ceased to be a recreational area and turned to be the spine of Greater Cairo. Most of the buildings of importance were built on its two sides. Tall buildings have clustered around the river from the far north of the region to its far south.

It should be noted here that Cairo has been transferred in this period from a capital city to a huge reservoir of practically all human activities, productive and non-productive. It has changed itself from a leading role in urbanism to a collection of settlements of diversified characters.

From that account, Cairo is not very different from other major cities in the Orient. Each has its own old city, colonial quarters and recent outburst in population and physical expansion. Urban symptoms are the same. Talking about tall buildings in Cairo will not be much different from talking about tall buildings in other capitals in Asia and Africa. They all have the same features, problems and challenges.

Furthermore, Cairo is the biggest city in the Middle East, Africa and most of the Third World. It has now a population of about twelve millions and expected to reach sixteen and half millions by the Year 2000. The rate of population

increase is about 350,000 per year : 200 000 by natural increase by birth and 100 000by migration from rural areas and other parts of the country. 22% of Egypt's population are living in Greater Cairo alone. They represent 43% of the urban population of the country. The population density is quite high, it reaches about 46730 persons per km square. Because of the magnitude of the city, urban phenomena are clear and even magnified. For this reason Cairo has been chosen as a case study for tall buildings. Their problems here could be easily defined and their future on the urban landscape could be anticipated.

III

The previous account shows that the City of Cairo in its historical growth has expanded westward and the business center moved in the same direction. It spreads sporadically over neighbourhoods traditionally residential, but it centers in a linear form on both sides of the River Nile. Naturally tall buildings followed business center to its locations. The river has tremendous potentialities. It offers panoramic views matched only by very few other rare sites in the world. The "Gold Coast of the Nile" - as sometimes called - attracts activities of civic, business and touristic importance. Tall buildings are set up here as urban device to maximize the use of the site potentialities particularly the view. The majestic flow of the Nile

has magic impact and overwhelming impression on the viewer. It could be safely assumed that the uniqueness of the Nile site is the prime reason behind the construction of tall buildings in Cairo. Other factors as business necessity or prestigious monumentality come as a second reason.

Also, it should be noted that tall buildings were put up at times of economic prosperity. Most of them were built after the open-door policy was nationally adopted and foreign investment found its way to Egypt. Business expectations were high and the future at that time looked promising.

It might be suitable to mention here a piece of historical fact. The Great Pyramid of Giza built around 3000 B.C. remained the sole tallest building in the world for about five thousands years. Man was unable all through history to build anything exceeding the height of the Pyramid till 1931 when the Empire State Building was put up in New York City, USA.

In recent times, and in general terms, the experience of tall buildings in Cairo went successively through three stages. Buildings in each stage were higher than the one before. In the first, buildings height varies from 20 to 30 floors. In the second, the height ranges from 30 to 40 and in the last stage it reached its maximum 40 to 50

floors. The time span of each stage is roughly fifteen years. Needless to say that the grouping of heights and spanning of time are merely academic and applied here only to facilitate our research.

Buildings remained within the range of five to seven floors high till the end of the thirties of this century when the first tall building (14 stories) was built. The 'Immobelia Apartment Building' - as it has been named - was built in 1938 in the center of the business district of that time. A land mark in building history, it opened the door for other tall buildings to come. The Immobelia with other apartment buildings built in the forties and early fifties represent the first generation of tall buildings in Cairo.

The Television Building (28 stories) on the east side of the Nile and Cairo Sheraton Hotel (35 stories) on the west side, built in the early sixties, started the second generation of tall buildings. They were soon followed by host of similar tall buildings : Ramses Hilton Hotel, Gezira Sheraton Hotel. Cairo Plaza Towers and several other apartment and office buildings, all being built along the river side and in some residential neighbourhoods.

The Ministry of Foreign Affairs Building (44 stories), World Trade Cente (40 stories) and group of apartment building towers in Al-Maadi south of Cairo are the third and latest generation of tall buildings.

Those buildings are, in general, of three types: Hotels, offices and residential apartments. According to the present Egyptian Building Laws, the maximum height varies from 20 to 30 floors. It depends on the width of the streets, the size of the sites and other factors. Any extra height requires, by law, a special permit issued by a Ministerial Decree.

The architecture quality of these buildings is admirable. They generally followed the so called International Style ranging from the American "Class Boxes" to the European "Sculpturing Forms". In few buildings local spirit was tried to be unified with International line but with limited success. Architecturally, they are a rich addition to the urban scene. Reinforced concrete skeleton was the structural system applied to the majority of the tall buildings in Cairo. Few were built in steel. This is understandable, building in concrete is much cheaper than in steel. The country has long experience with concrete technology and its component materials are locally available. Industry and research centers are joining efforts in advancing concrete sciences in Egypt. The steel buildings have their own structural and architectural merits, but they look alien to the Egyptian eye which got used to stone and concrete structure for a long time. Most of the tall buildings were built by foreign construction

companies. They were more familiar with new building systems and site management.

IV

It might be useful to try to evaluate the phenomenon of tall buildings in the developing countries, still taking Cairo as our case of study. Few indications show clearly that the trend of tall buildings will go at slower pace in the future than it did in the past. We will examine here some of the important aspects of this phenomenon.

First, except for hotels, tall buildings in developing countries are not economically viable. They are much more expensive than low-rise buildings. Most, if not all, ^{of} their finishing materials and installations were imported from abroad. Their standard was equal to similar types of buildings in Western capitals and major cities. As a result, the building cost in Cairo was not much less than the cost in Manhattan Island, New York. It reached three thousand Dollars per meter square in Cairo Plaza Tower project in 1986. The invested capital was high but the dividends were low. The rent value or selling price of floor area was much more than what local market could take. With high invested capital and high running cost, local economy could not sustain tall buildings. Only foreign enterprises, with foreign capital could afford such buildings. It is not uncommon,

in some new office buildings, to find fifty percent, or even more, of the floor area left for years unused. The generated income could hardly pay for capital loans or even their interests. Some projects are going now through serious financial difficulties and governmental interference look unavoidable to save them from these difficulties. Residential tall buildings are in a better situation. Their clients came mainly from neighbouring rich countries. The Government is now easing the restrictions on foreign ownership of these apartments. Also some floors are reserved for employees of foreign embassies and foreign companies operating in Egypt. Hotels are members of international network of tourism. Local conditions have little impact over their market. In brief one could assume that tall buildings could not totally fit in local economy of the developing countries and if they continue to exist it would be only because they are in reality foreign establishments planted in local market.

Of course, this is not the case in countries with more prosperous economy. Tall buildings in Jeddah, Riyadh and Abu Dhabi are expanding and look well placed. In the last two decades these cities witnessed the rise of distinguished tall buildings in both their architecture and structure. Some of them were internationally acclaimed for their distinction. The Saudi National Bank Building in

Jeddah is a good example of such remarkable buildings. The economy of these countries could support such projects. It could back up the invested capital in their construction, their running cost and also their marketing. This is not the case in most of the other developing countries where the average family income per annum is far below the level of meeting their basic needs.

The second set of problems of tall buildings in Cairo are related to services. These buildings were designed and built according to the latest norms and standards of construction and mechanical and electrical services. All modern amenities were provided. They are centrally air-conditioned with sealed windows. Very little attention was given to local climate which is generally hot and humid most of the year. The end result is high energy consuming buildings in countries suffered severely from energy scarcity and prices. A single tall office building in Cairo is consuming electric power equal to the total consumption of a Delta middle size town of about 400,000 population. Since energy is still highly subsidized by the state one could see the strain tall buildings are putting on the national economy of the country.

Water supply and sewerage are another problem. The capacity of services networks of these areas fall far below the needs of tall buildings. It is not rare to see group of

tall buildings standing for years unoccupied waiting for new water plant to operate or new sewerage pipeline to function.

Traffic problem is generally overlooked in the design stage. Not only enough parking space is not provided but also the roads leading to these buildings cannot accommodate the extra traffic load expected after they are fully occupied.

As mentioned before most of the new tall buildings are situated in one line along the Nile coast. The River side avenue -with average width of about 20 meter- goes from one end of the city in the north to the other end in the south. It is the only artery connecting these buildings with the rest of the road network of Greater Cairo. The traffic on this avenue is now heavy most of the day especially during the rush hours. With the addition of expected extra load of traffic, the situation will be extremely difficult and no easy solution is in sight.

The third problem is closely connected with the civic and urban designing of the City. If you look to the panoramic view of the tall buildings along the river side two architectural features will attract the attention. The first is, those buildings set side by side form together a concrete wall along the river from north to south of Cairo. Running between two concrete walls on both sides, the river lost

some of its majesty as it lost its scale. The wall has become a barrier between the City and her River. The relationship between the two is historical, intimate and organic. The new concrete wall of tall buildings came to cut off this relation. The second feature is the fact that these buildings stand not in harmony with one another. Each was designed separate from the rest. No attempt was made to make it fit in its urban environment. The diversity in height, form and style in the same field of vision adds considerably to the disharmony of the City as a whole.

Tall buildings in the midst of residential neighbourhoods express the same civic disharmony. These neighbourhoods were planned in the forties and fifties to be residential quarters for professionals and middle classers. It had low population and building densities. Most of these areas were planned originally as single family houses with limited heights. Half of the site areas was left green. Gradually, commercial, touristic and other non-residential activities moved in. The lack of proper city zoning and land use policy - or more correctly the negligence in enforcing existing city ordinance - led to the deformation of the face of these neighbourhoods. Many of the single family buildings were torn down leaving their places for tall buildings. Green areas disappeared, population density soared up, the balance of real estate economy seriously

disturbed and the land value increased constantly at high rate, estimated about 40% per year. Tall buildings in residential neighbourhoods, as tall buildings along the river side, contributed to the present disorder of the city.

V

We can draw now some basic conclusions which might help in our future outlook to tall buildings in developing countries. Tall buildings (30 floors high or more) might be inevitable. We could not totally rule them out from major urban centers. In the poor countries they could not fit in the fabric of national economy. They could be a strain on their economy. They are only justified as foreign enterprises functioning within the developing societies. If they become a necessity to meet a pressing need. Tall buildings of this height should be an integral part of well thought of city master plan. They should be built in full accordance with zoning laws and land use policy. Careful attention should be given to the availability of services. The impact on traffic must be considered. Their aesthetic values and their fitting in city-scape are of utmost importance. If we want to avoid future financial trouble, realistic and serious feasibility study must be carried out before we start a project of such a tall building.

On the other hand tall buildings (10 - 20 floor high) seem

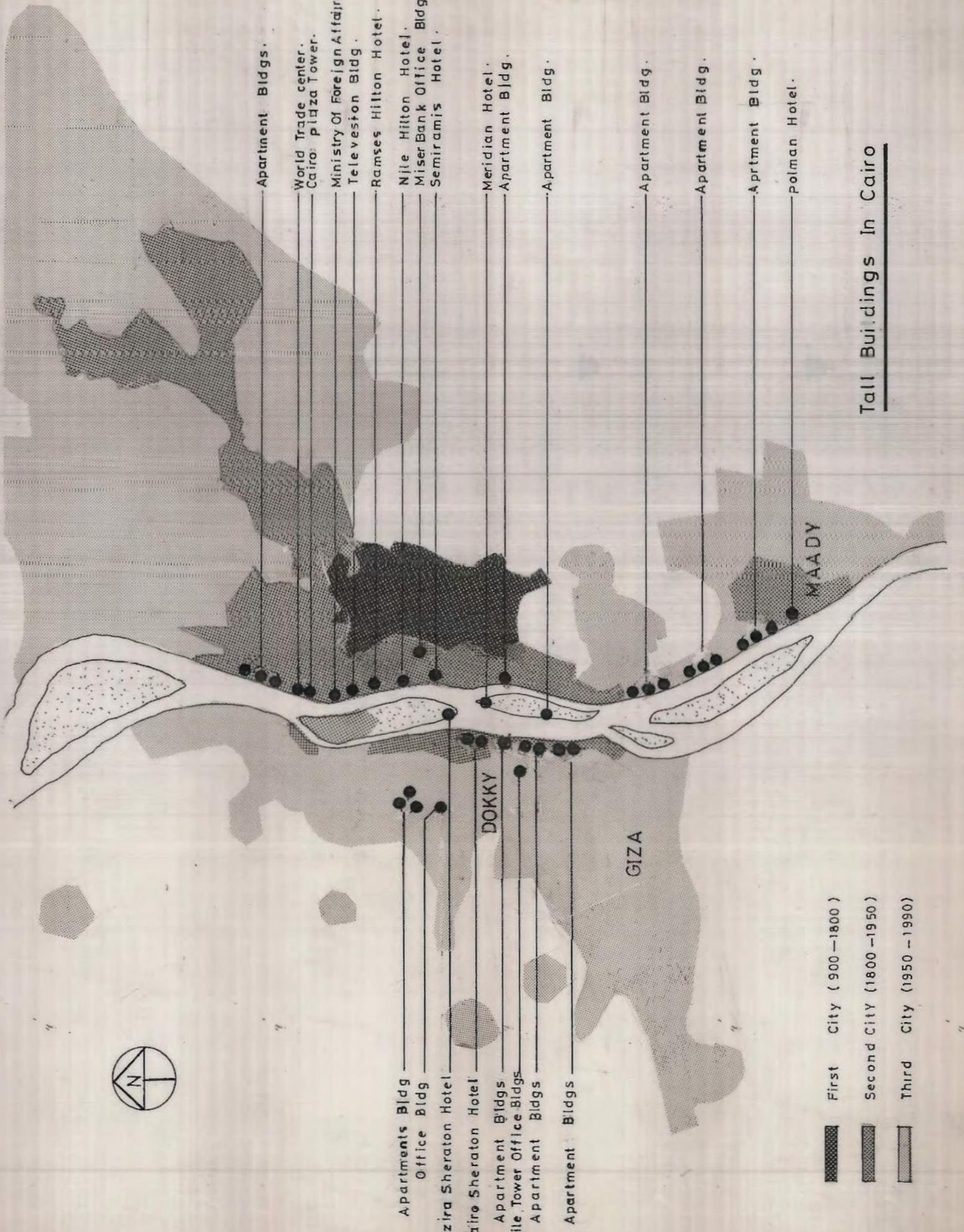
to answer present standing need. They are spreading widely in Cairo and other Delta cities especially those surrounded by valuable agricultural land and with limited possibility to expand horizontally. In rehabilitation of old or deteriorated neighbourhoods or even in building new communities, this type of tall buildings will probably be favourable to developers and planners. It looks to be within urban, sociological and economical possibilities of our societies. Here, too norms of proper planning must be observed, as population density, building density, availability of enough space and green areas between blocks, play grounds and other vital services for a good city living. The availability of these amenities will tip balance ^{over} the extra cost those buildings might have over low rise buildings.

With proper national and regional planning better distribution of population could be achieved. Migration of population from rural areas and even from present urban centers should be directed to new towns outside the existing heavily populated regions. The Egyptian people occupy only four percent of the total area of the country. Ninety-six percent is left almostly undeveloped. New towns will take off high population density from existing cities. In this case, the need for high rise buildings will be eased. Satellite towns around big urban centers -as Cairo- are

highly needed. Population and some city activities could be moved to these satellites. Seven new towns around Cairo are now under planning. A ring road connecting them with the city is at the present under construction.

We should learn from our mistakes if we want real progress to our countries which happen to be -in this phase of history- under developed and politely called developing countries.

Thank you for listening.



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