

Challenges facing the Interrelation of 21st century International Airports and Urban Dynamics in Metropolitan Agglomerations

Case Study: CAIRO INTERNATIONAL AIRPORT

1- Introduction

Throughout the latest decades, Great International Airports (GIA) have demonstrated a huge progress concerning their relationships with cities and urban agglomerations. The accelerated need for better communications between peoples, cities and countries, accompanied by an unforeseen rapid expansion of air transportation industry (for both passengers & goods), have lead to a new momentum in favor of the interrelation between Airports & Metropolitan areas.

Today, in the context of world economic globalization, on the one hand, and the progressive trend toward metropolisation of cities, on the other hand; the GIA have turned to be in the heart of grand international exchanges networks. Following the role they play as gateways for the world markets, and the assets they represent to attract capitals, investments, activities and multinational H.Q. localizations... the GIA have become structuring elements of regional economies, creators of employment and wealth fare.

However, the performance of GIA to satisfy a constant growing demand of air traffic, depends greatly on their spatial arrangement and insertion within the contextual metropolitan territories, as well as, on the awareness of their economic impacts at local and regional levels and, finally, on the efforts deployed in order to preserve the quality of life of local inhabitants.

Hence, it is important for GIA regions to look for a certain equilibrium between those tendencies linked to the evolution of air transportation "airside", and other tendencies which are tied up with socio-economic and spatial considerations "landside". In fact, regional/ local socio-economic and spatial contexts define, partially, the potentials lying on airports and vice-versa.

While some nuances could be felt concerning the aspects and levels of impacts on urban dynamics from one GIA to another; **planning in a more globalized and competitive world** should be aware of the significance of the recent form of interrelation between GIA and metropolitan areas which seeks to create in and around the platform a **regional development pole**; some experts and specialists describe it as a genuine "**Airport City**".

This paper attempts to analyze chronologically the evolution of relationships between airports and urban dynamics in their regions. Subsequently, we shall define the different levels and characteristics of the role of GIA as regional strategic poles, as well as, the conditions for the establishment of the so called "airport city". This part of the research will be conducted through a thematic analysis based on an analogous approach with reference to GIA experiences around the world.

Afterwards, the paper will demonstrate a "brief" case study of Cairo International Airport (CIA) and its relations with the Greater Cairo Region (GCR). It will examine the potentials and the limitations for the creation of "**Cairo Airport City**". The goal is to set up a vision for the future which aims at establishing a better comprehension for the prospective interactions and, in the same time, eliminating the negative impacts which could lead to a vulnerable future relationship between CIA & GCR.

2- The Airport: From aerodrome to regional development pole

2.1 Historical background

from the time when they have been implemented at the beginning of 20th century, the **first generation of airports** (or aerodromes) have been serving for long years as transport facilities strictly devoted to insure the maneuvering operations for airplanes (take-off, landing, parking,..) through runways and annex installations, as well as, the simple transit of people and goods from/to airplanes to/from their cities through basic terminal structures.

Airports (or aerodromes) were traditionally situated in isolated locations within suburban areas, and the only aspect linking an airport to its city was a rapid road which lead directly to the urban center where major functions were concentrated. On the other hand, the management of airports was insured directly by the central governments, while the access to air traffic was restrained to limited and distinctive categories of the society (officials, businessmen, professionals,...).

As the world war II had come to an end, new airports were erected and many of existing military aerodromes around the world were converted to civil airports creating the **second generation of airports**. This shift was coinciding with two other major trends: 1) the beginning of metropolisation of cities where suburban areas, including airports' sites, joined the urban agglomerations; consequently, major activities have been dispersed throughout the metropolitan territories. 2) the democratization of air traffic for ordinary citizens, which followed a formidable revolution of air transportation industry through the introduction of jet airplanes with much higher capacities and requirements, specially in platforms.

The first generation of airports (for example, Croydon in London , Le Bourget in Paris, ...) has proven great spatial difficulties to respond to progressive air traffic requirements, thus, platforms of this generation were, generally, converted to other exploitations. In the same time, many of airports of the second generation knew how to adapt successfully their sites and continued to develop their activities (for example, Frankfurt, Amsterdam & Zurich,...), while other airports have reached their limits of saturation after several years (for example, Gatwick in London, Orly in Paris, ...).

Consequently, many metropolitan areas, where air traffic demand is more pressing than in others, have created since the 70th of the last century their **third generation of airports** (for example, Mirabel in Montreal, Dallas fort-worth in Texas, Roissy Charles de Gaulle in Paris, Narita in Tokyo...). This generation had learnt from the experiences of its predecessor ... experts call airports belonging to this third generation, "**gigantic airports**".

Several common characteristics explain the main features of these gigantic airports: 1) sites are extremely vast (7200 HA at Mirabel-Montreal, 6500 HA at Dallas-Fort Worth), 2) locations are significantly far from urban centers (66 Km at Narita-Tokyo, 50 Km at Mirabel-Montreal), 3) platforms acquire huge capabilities not only in term of foreseen air traffic but also of accommodating non-aviation activities, 4) planning of airports are well linked -from the beginning- to the planning of their regions,.

Today, airports' systems in many metropolitan areas -especially in the developed countries- consist of more than one airport of different generation. The sustainability of any regional airport system depends greatly on the good comprehension of the capacities and limitations of each airport within its system, not only with regard to potential air traffic but also with regard to prospective urban dynamics within and around its site, as well as, in the framework of the wider metropolitan planning.

Actually, three spatial dimensions could be determined in order to better appreciate the different levels of interactions between the airport and its urban environment:

- The airport domain
- The sector of the airport
- The airport's region

2.2 The airport domain

Often, airports are perceived as entities with their own rules, their own dynamics, their own legitimacy, that are beyond the control of local and regional authorities. But a closer inspection reveals that the parameters have changed. Today, airports are far from being closed identities. Although, the prime task remains to guarantee the efficiency of the core business of the airport (air traffic), the airport domain does not only consist of runways, aprons and terminals; but includes major real estate development and a multimodal interchange node "air, rail, road". To balance airside and landside, airports are forced to develop an overall master plan (a total concept).

At present, three categories of activities can be distinguished at airports, with more or less direct relation to air traffic:

- **core business:** activities that are part of the technical operation of the airport, directly supporting the air traffic function. They are also called aviation activities, such as: airline handling, passenger transport, freight transport, and related commercial activities.
- **airport related or ancillary activities:** activities that have a direct relation to air-freight or air-passenger, such as: logistic and distributions activities or hotels.
- **airport-oriented activities:** they choose the airport (or its immediate vicinity) due to the prestigious image of the airport and its excellent landside accessibility from other regional development sites : offices, conferences, exhibitions,....

The latter two categories of activities could be subsumed under non-aviation activities. In term of revenues, they get increasingly important for airport's revenues. For instant, at **Schiphol**-Amsterdam, non-aviation revenues represent 51% of the total revenues of the airport (575 million euro in 2001). The impact on airports as job creators is also significant. The three categories of above-mentioned economic activities generate tens of thousands of jobs on the platform. At western Europe airports, it is considered that every million passenger per year generates an average of 1150 jobs on airport. For example, there is to 60000 jobs on **Heathrow**-London, 42000 on **Francfort**, 38000 on **Roissy CDG**-Paris. On its turn each job on the platform induce an equivalent of 1 to 2 jobs in the region.

Nevertheless, these growing activities call for more and more spatial capabilities within the airport perimeter. The size of the platform starts to be measured against the elasticity required for the operation of an airport and the increasing ambitions to accommodate extra businesses and non-aviation economic activities.

Airports apply different strategies aiming at overcoming this dilemma by acquiring more lands both to extend airport capacity and to provide operational flexibility while accommodating additional facilities:

- **expansion** of the territory of the airport, in abundant quantities to not only provide new maneuverability and extra airside capacity, but also to include new sites for non-aviation activities within the perimeter. This situation exists for example in **Barcelona**-Spain, **Arlanda**-Sweden and **Helsinki**-Finland. Due to legal mechanisms, co-ordination with local authorities, in this case, is not necessary.

- **outsourcing** of some core business activities from the center of the platform to the immediate airport surroundings in order to allow further expansion of the terminals and for additional profitable business activities. The experiences of **Schiphol**-Amsterdam and **Zurich** are important at this point, where long term parking and freight handling or catering are relocated to the surroundings of the platform. This sometimes requires a major infrastructural effort as in Schiphol, where remote cargo areas are connected to the platform and to air-rail service center for freight, by an automated 5 km long underground logistic system (ULS).

- **collaboration** with local / regional authorities beyond the proper airport boundaries to guarantee space for airport-related activities in the vicinity of the airport that are crucial to the success of the freight operation, for example. In **Frankfurt**, the airport launched a joint venture with the Hoechst industrial company, to develop extra logistic activities on a former production site of the latter. Within the **Schiphol** area development company (SADC), the airport and local/regional authorities co-operate in the development of specifically airport-related activities (mostly logistic activities) on different sites in the immediate vicinity of the airport, provided with direct access (ring road) to the platform.

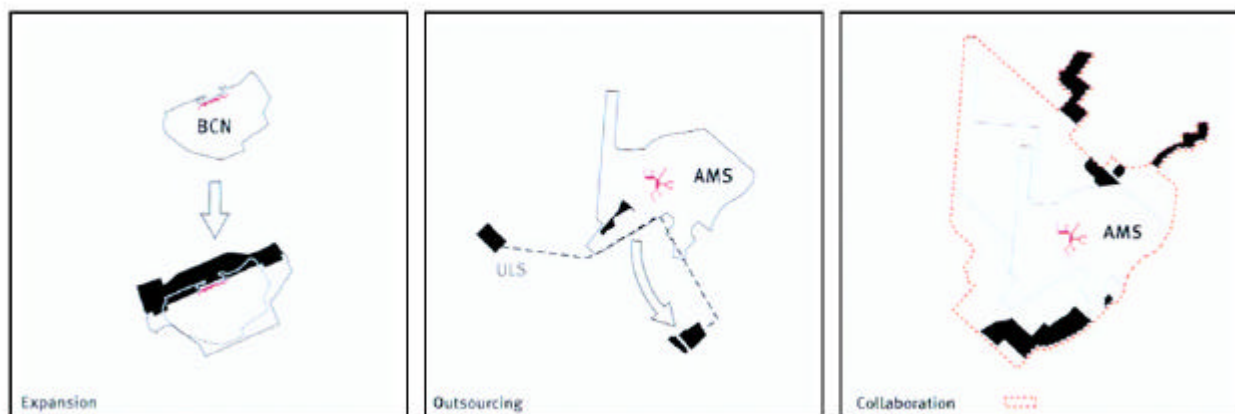


Fig. 1: Different strategies to expand air & land side capacity (ex. Barcelona, Amsterdam)
Source: Güller Güller, "from airport to airport city", Airport Regions Conference, Barcelona, 2001.

All the land-use mechanisms on and around the platform, switching-off positions, intensification of land-use on the platform, platform expansion, outsourcing, and the collaboration on sites beyond (but directly linked to) the platform, make the arrangement, functionality, and connection of all airport-related areas and activities increasingly difficult.

Today, The GIA reach unseen levels of spatial complexity on their entire territories due to, on the one hand, the necessity to safeguard optimal performance of their progressive core business (air traffic) and, on the other hand, the accommodation of new efficient dispositions of related-activities on and around their platforms. Airport site planning is steps away from purely "technical airport planning" towards including fundamental aspects of urban design.

2.3 The sector of the airport

It is difficult to define concrete spatial borders which could set the limits of the so called "sector of the airport". In effect, these borders are changeable, and depend largely on the specificity of each airport & of its relationship with the urban context: dimension of the airport, volume and nature of air traffic, importance and richness of the region, geographic position of the airport within the regional framework, availability of lands, quality of road/railway networks, etc.....

However, we could observe that, in many airports, within a zone of 5 to 10 km distance from a GIA site boundaries, the urban structure of the area is heavily influenced by the presence of the airport. According to the analogy between GIA sectors, especially in European and north American metropolitan areas, five main categories of economic activities with major impacts on land uses, could be distinguished in relation (more or less) to the air traffic generated by the airport:

- **outsourced airport activities** that are forced to leave the platform, as we mentioned before, when the perimeter of the airport gets tight and proves incapability to accommodate further required expansions of its core activities or profitable businesses. This action concerns, normally, freight zones and catering centers as well as long term parking area. At **Gatwick**-London, for example, more than 20.000 parking places are relocated outside the airport and directly linked to the platform.

- **hotels and related services** such as restaurants and commercial/shopping centers. Part of these activities is related to the volume and the type of air traffic generated by the airport, but also to the multiplier effect due to the existence of other airport related or oriented activities. The hotel stock in the sector of **Roissy-CDG** airport represents 5% of the total number of rooms in the region "Ile de France" and 10% of the total number of rooms of high standard hotels (4&5 stars).

- **International commercial/business activities** which find a great deal of interest to be implemented in the sector of the airport, for instance: exhibition centers, congress & conference centers, communication & training centers for multi-national corporations...these activities are influenced by two main factors: the prestige which the airport offers in term of "window to the world", and the advantageous accessibility (air, rail, road) which is usually available in the sector of the airport.

- **tertiary activities**, where multi-national companies are particularly responsive to localize their antennas or even headquarters at the vicinity of GIA sites. This choice offers greater flexibility & mobility for companies employees and clients, as well as, better communication with their dispersed production sites. Stockley park near **Heathrow** and Paris-Nord II near **Roissy-CDG** (315 ha) are significant examples of these office stock around GIA sites.

- **logistic & distribution centers** due to the new mechanism of international exchanges where the inter-modality of transportation networks is crucial for the performance of the production system in metropolitan areas. As mentioned before, the transportation node (air, rail, road) which many of GIA sites offer, represents a governing factor regarding the progress of this activities inside the sector of the airport.

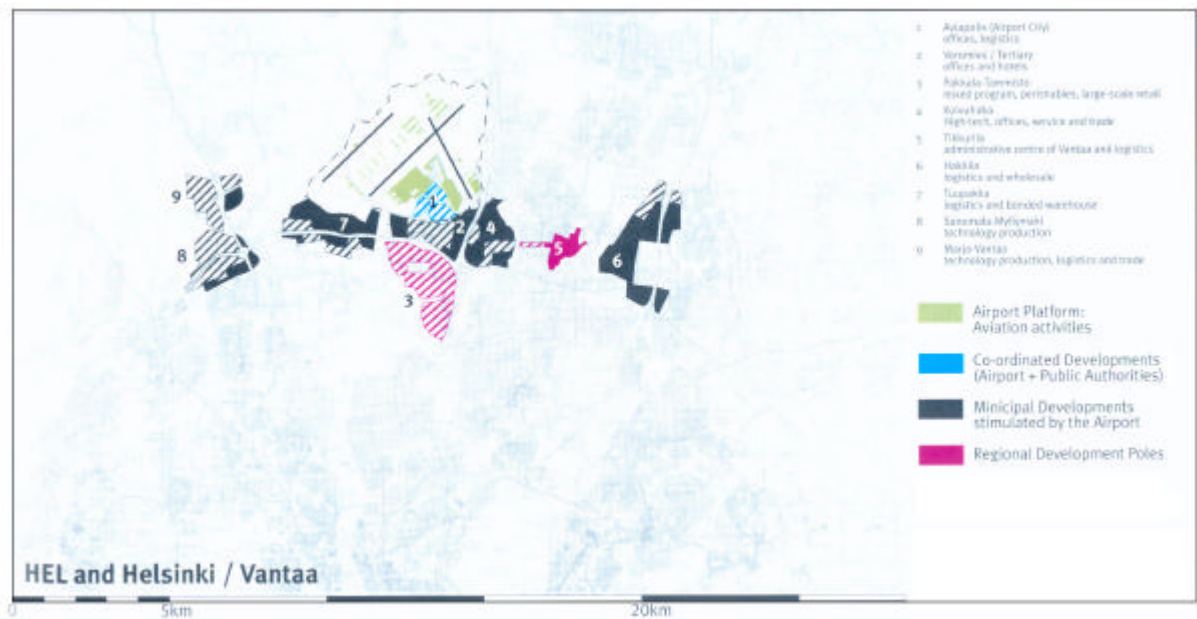


Fig. 2: Sector of the airport at “Helsinki Urban Region”

Source: Güller Güller, “from airport to airport city”, Airport Regions Conference, Barcelona, 2001.

Today, The sector of any GIA represents major economic pole for its region. For instant, the sector of **Roissy-CDG** accommodates 2000 ha of activities belonging to the five above-mentioned categories. This area corresponds to 16% of the regional market and assumed to be the most dynamic among the equivalent areas in the region “Ile de France” (it progresses with a rate of 80 to 90 ha per year).

However, the sector of the airport (as any other sector in the metropolitan area) contains also urban/residential zones with all traditional related services and facilities. The question of how to manage the sector of the airport remains a complicated issue. There are different actors: Airport authority, municipalities around the airport, regional authorities, and investors (public and/or private). Each actor has its own interest and strategy, as well as, its spatial/temporal level of involvement. The establishment of a coordinating framework, (as mentioned for instant in **Schiphol**) which elaborates development schemes based on an equilibrium of interests is, therefore, a must for the sustainability of the vital role of airport’s sector within its region.

2.4 The airport’s region

Subsequent to the above-mentioned analysis at platform and local levels, one should underline the wider context of impacts which is the whole metropolitan area. The question now is whether the planning of the airport becomes effectively a matter tightly linked to the regional/urban planning?

2.4.1 the economic/spatial dynamism:

GIA have become major assets for their regions, and their related activities are important motors in the respective metropolitan economies (in general, 6-10% of regional PIB). In the same time, the market for airport-related activities is a global market where the choice is not made between one or another pole in a certain region , but between different regions as such. This reality explains the distinctiveness of development forms related to airport’s business from that of Central Business Districts (C.B.D.) or of other existing poles in the metropolitan areas.

As mentioned above, the airport-related economic effects and benefits are not limited to the airport territory, but are spread out over larger territory. Many regions have shown a successful insertion of concentrated airport-related activities on and around the platforms where the so called “sector of the airport” takes shape. This is not contradictory with possible remote forms of airport-related developments in other sectors of the metropolitan area due to contextual historic, real estate, or economic factors.

Yet, In some regions, there is an apparent disparity between strongly airport-related economic activities and the existing local economic structure around airport’s site. In this case, the bulk of airport’s spin-off is not necessarily located within its sector, but can also be accommodated in disperse sites throughout the region with good and fast access to the platform, contributing to a more even development balance.

A study concerning the regional localization of airport related economic activities in nine European metropolis, has shown the inclination from one region to another towards, more or less, one of the two following trends:

- **Nearby:** where strategic land reservations are available around airport’s sites, sustained by cooperation with local communities and/or
- **Further away:** where regeneration throughout the metropolitan area takes place, with good and fast access to the platform



Fig. 3: Regional “economic/spatial” impact of airports: “the closer to the airport, the more tuning between landside developments is necessary”. Source: Güller Güller, “from airport to airport city”, Airport Regions Conference, Barcelona,2001.

Experiences in Amsterdam, Helsinki, Zurich (relatively, nearby option) or those in Gatwick, Malpensa (relatively, further away option); show that there is a need to find a good balance between concentrating a certain kind of program close to the airport (selective programming) and distributing other airport-related program in the wider surroundings throughout the region with good and fast access to the platform. In order to avoid spontaneous forms of development (due to autonomous initiatives of developers), this matter has to be, with no doubt, the responsibility of local/regional planning authorities, with the consultation of Airport's authority.

2.4.2 The metropolitan transport system:

Airports, once erected at the fringe of urban areas, today lie in heavily urbanized areas along some of the most intensively used thoroughfares of the metropolitan regions. The capacity of the same roads that provide access to the airport is often exhausted by everyday commuter traffic. Given the precariousness of the situation, initiatives have been implemented in many regions to improve the attractiveness of public transportation for various users of the airport (passengers, employees, and visitors).

At the contemporary airport, a multimodal interchange node evolves, offering connections between different modes of landside transport on nearly every scale. Consequently, the GIA site does not only provide transit from landside traffic to air traffic. Transfer between the different landside networks for non air traffic purposes becomes ever more attractive, as the networks of high speed trains, national railways or coaches, and of local and regional public transportation converge at the airport.

These opportunities have made the airport the second main railway stations of the regions in **Zurich, Amsterdam), and Frankfurt**. To achieve integration of all means of landside transport, major efforts have been made on these airports not only to connect each mode well to the air terminals but also to establish direct convenient interconnections between landside modes. The interchange function on airports, and its beneficial effects on transport networks in the region (an improved public transport offer and additional connections) necessitates the co-operation between transport providers, the airport operators and even airlines. This co-operation will guarantee the optimal transfer of passengers from one mode to another on the huge airport site with its multiple spots of traffic generators.



Fig. 4: Example of multi model transportation node at AMS platform
 Source: IAURIF, "airports as factors of metropolitan development", Metropolis conference, Barcelona, 1999.

In comparison with other poles in the metropolitan areas, the GIA sites could be considered as one of the best accessible public transport nodes and will improve further in the future. Now it is crucial to anticipate the potential added value such an interchange node can have not only for its local urban benefits but also for the further development of the metropolitan area and the airport's role as a regional development pole.

2-5 The concept of "AIRPORT CITY"

Following the previous analysis, the concept of Airport City (AC) can be defined as the global outcome of the various aspects characterizing the role of the airport as a regional development pole, it comprises mainly the following three aspects:

- a major workplace where tens of thousands of jobs are generated on and around the platform due to the presence of the airport business and its multiplier effect,
- an urban centrality as a result of the concentration of a wide range of activities: airport core business activities (air traffic), related, and oriented economic activities within and beyond its boundaries,
- a multimodal interchange node (air, rail, road) where the correspondence between different landside transportation systems shifts the role of the airport from a simple destination into a pole of regional inter-modal exchanges.

In addition to these three aspects, some airports' sectors incorporate the residential dimension into the whole image of the AC. This means that a quite important number of the employees of the AC and their families live in the local communities around the platform, where also airport-related economic activities are inserted successfully into the local urban/economic structure.

As a conclusion, the form and the potentials for the establishment of an AC with its all aspects, and the scale of its socio-economic & urban impacts, depend greatly on the following key factors:

- 1) the capacity and the way by which the platform has been erected, developed, and foreseen in the future**, with regard to both air traffic volume & spatial capabilities,
- 2) the nature of interactions between the airport and its surrounding urban environment** including urban controls, as well as, insertion of related economic activities into local urban structure,...
- 3) the characteristics of the landside transportation network** and the multimodal node ,
- 4) the position of the airport with regard to the regional development framework**,
- 5) the richness and the economic welfare of the region.**

3- Case study: Cairo International Airport “CIA”

3.1 CIA “brief” history

CIA is located in the north-east sector of Greater Cairo Region (GCR), at 20km from the heart of the city. It was initially erected as a military base (Byne Field) during the second world war, and then had been transformed into civil airport since 1945. Therefore, it belongs to the second generation of airports. But, contrarily to many airports of its generation, CIA has successfully served as the unique gateway of GCR and has overcome different obstacles facing its constant progression during the latest decades. In effect, CIA has known successive expansions beyond its perimeter, as well as, consecutive adaptations of its installations to the evolving requirements of air traffic business.

CIA site has been considerably expanded following two major development stages since its exploitation for civil aviation in 1945:

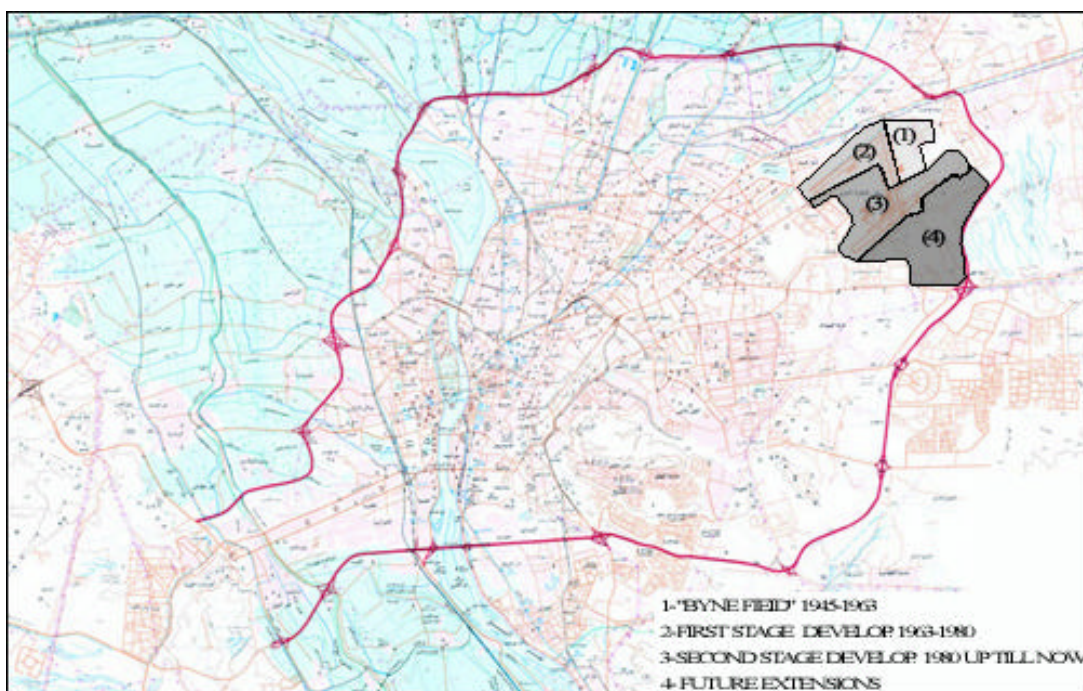


Fig. 5: Stages of Development of Cairo International Airport
Source: Author.

The first stage had been achieved in 8 years (from 1955 to 1963), when the old terminal with two of its three modest runways (1.8 Km, 1.8 Km, 2.1 Km) have been abandoned. A new location (due to the expansion of the platform to the west on about 700 ha) has been selected for the establishment of a modern terminal complex “1”, together with a new runway (3.5 Km). The longest of the old runways has been expanded (to 2.5 km) and exploited as a secondary runway. Many buildings and installations have been constructed during the following years, allowing the increase of the capacity of the terminal complex 1 (three air terminal buildings) to reach up to 7 millions of passengers per year in 1980.

At that time, in parallel to the growing demand of air traffic, the second major stage of development took place at CIA (from 1980 till 1993). Hence, another expansion of airport territories to the south (on about 1200 ha) has permitted the creation of a second terminal complex “2” with a new great runway (4.2 km) and annex facilities. The planned capacity of

this terminal complex “2” with its three air terminal buildings was 15 millions of passengers per year.

Moreover, land reservations for about 1500 ha located at the south of the airport are foreseen to be annexed to the platform territory in order to create new terminal complex and a new runway on the long term. The total area of the platform could reach 3800 ha with an annual capacity of 40 millions passengers, which means that CIA -site area wise- with an current annual traffic of 10 millions passengers and average annual growth of 8%, could serve GRC for 20 or 30 years as its unique air gateway. Yet, the spatial capabilities within CIA perimeter, are not the only governing factor for future air traffic volume: air space availability , land side accessibility, surrounding land uses,... are among crucial elements which will be discussed later.

Finally, despite -more or less- constant progress of air traffic since its creation, one should underline here the relative modest volume of air traffic actually generated by CIA (10 millions passengers per year) compared with GIA around the world. This volume of air traffic represents 1/6 of air traffic volume at Heathrow-Londen, 1/4 of that at Roissy-CDG & Francfort, and 1/2 of that at Bruxelles...this may explain, partially, the lesser amount of pressure exercised on the platform compared with other metropolitan areas in order to respond to growing demand and requirements of air traffic.

3.2 The perception of “Cairo Airport City”

Following previous analysis which have lead to main criteria for the establishment of an Airport City (AC) on & around any platform, this section will examine the situation at CIA and its region in order to highlight the potentials and limitations for the creation of “Cairo Airport City”:

3.2.1 the capacity and the way by which the platform has been erected, developed, and foreseen in the future:

The above-mentioned historical background of CIA and its future, in term of land reservations, are elements which suggest a huge capabilities of CIA site to respond, not only to growing air traffic demand, but also to possible non-aviation economic activities constituting a major pillar for the constitution of the AC.

Nevertheless, airspace is a constraint which put the effective capacity of its dual, independent main runway system at 20-25 aircraft movements per hour, compared with their design capacity of 80 hourly movements. A great deal of this constraint is due to the presence of five air bases and restricted military airspace around the airport site, in addition to urban encroachment from its west (aircraft’s noise zones).

3.2.2 the nature of interactions between the airport and its surrounding urban environment:

At this point, we have to identify two existing fundamental types of urban environments around CIA site :

- *At the west, saturated urban sector:* historically, the west sector adjacent to the platform represents the main linkage between CIA and GCR, in term of accessibility and of related/oriented activities of the airport. Hence, along or close to the “airport road” till 8 km away from the platform one could observe: heavy hotel activity (15% of the regional stock of high standard hotels) together with the main international exhibition center, as well as a major international congress center...these dispersed activities could be considered as indirect impacts due to the presence of the airport. On the other hand, limited offices

development “mainly for aviation authorities & airline companies” has taken place , and rare non aviation logistic or inter-modal activity could be found.

In the same time, residential areas (for middle and higher classes) from districts such as, Heliopolis and Nasr City are approaching progressively the platform since decades, from north-west/west/south-west; constituting a kind of encirclement from these directions around the platform, even inside noise zones, and posing major difficulty for the reservation and/or insertion of future important airport related/oriented activities. As an exception of this rule, The site of Almaza air base represents -in case of relocation of its military uses- a major potential for future exploitation related to the development of CIA business.

- *At the east, potential development for the future:* this area acquires major reservations on desert lands. In addition to the development programs of new communities at the north-east/ east/south-east of the regional “ring road”, a vast area located between Ismailia & Suez national roads, is still placing the platform at several kilometers away from any urban development in these directions. The future of CIA depends partially on how this strategic area can be developed and whether it will be exploited in relation with the development of the airport business, or, on the contrary, traditional land uses will suffocate the platform from this direction and undermine the prospects of the zone.

3.2.3 the characteristics of the landside transportation network

CIA is currently linked to GCR through a unique transportation infrastructure which is an urban road (2 ways x 4 lanes). This thoroughfare serves, not only, for airport access but also for inter-linking Cairo residential eastern districts together with Cairo C.B.D., as well as, for supporting an important part of the traffic coming from eastern new communities around GCR and eastern provincial cities located far from the region.

These circumstances explain the quasi-permanent congestion on “airport road” where numerous projects (tunnels and fly-over) already took place or currently are under construction to alleviate partially the crossing traffic on this vital thoroughfare. In parallel, the use of individual modes of transportation for the access to CIA (private cars & taxi) is dominant, while the use of public buses are very limited due to its slowness, inconvenience for luggage transport , and its multiple stops.

The actual situation of landside transportation serving CIA represents, with no doubt, a major obstacle facing any ambitious conception for the future role of the airport. Fundamental changes are to be considered including –but not limited to- the need to link up with the metropolitan metro system (through the eminent project of the third line), and with the regional road network through a direct connection to the adjacent Ring Road at the east.

3.2.4 the position of the airport with regard to the regional development framework

The east and north-east directions of the GCR are considered to be the major axes of actual and future urban development at regional level. The CIA is located in the heart of this area between the eastern fringes of the existing “continuous” urban agglomeration bordering the platform from the west, and the ambitious programs for new urban communities at the east, at several kilometers away for the platform.

This situation is, in fact, a double edged weapon for the future of CIA and its foreseen role in the regional level, depending on two opposite scenarios: on the one hand, hazardous urban expansions responding only to local “traditional” demands (for instant, housing & services),

which lead to suffocate real possibilities for better interaction between CIA and its urban environment; on the other hand, a balanced “controlled” urban development which takes into consideration the whole future image of the region, including the potential positive impacts of the airport and its related/oriented economic activities.

The degree of cooperation between airport authority and local/regional planning authorities is a governing factor at this point. Till now, one should affirm the weakness of this coordination which does not go beyond the consideration of “purely” air traffic demands and requirements. If a new momentum is to be considered, the introduction of CIA as a regional development pole in the future urban schemes of GCR is, from now, a must.

3.2.6 the richness and the economic welfare of the region

GCR (16 millions of inhabitants) is one of the greatest metropolitan area in the middle-east and Africa, it represents also 1/4 of the population and 1/3 of total investments in Egypt , as a whole. In addition to the relatively prosperous touristic industry (5 millions of tourists per year and 10% of annual increase), Egypt, and especially GCR, is a favorable place for the localization of international businesses serving not only the national spectrum but also the ultra-regional dimension. Consequently, CIA –with its 10 millions of passengers per year- is still one of the major airports in the region (middle-east & Africa) and continue to play the role of regional HUB for many airline companies.

While Egypt is a developing country and has suffered in recent years from recession of its economy (due to local and international circumstances), and where subsequent impacts are felt on GCR economic welfare, as well as, on CIA progressive volume of traffic; These factors of circumstances, must not deter us from fundamental indicators which put GCR and its CIA at leading positions compared with their counterparts in this part of the world, and are called upon to play this role more and more in the future.

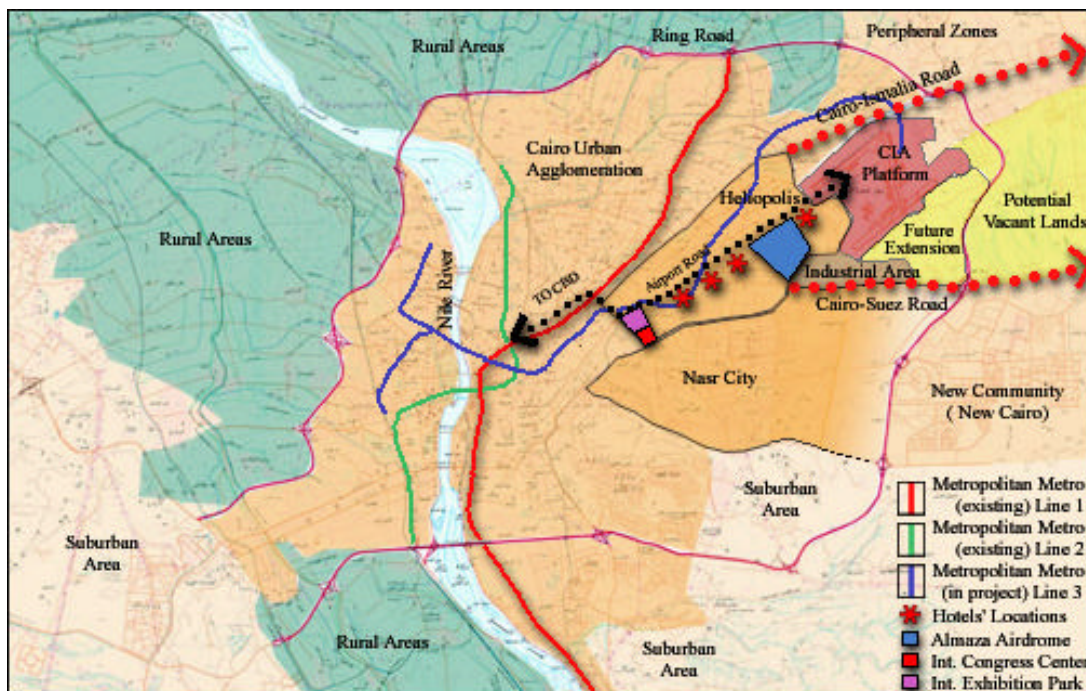


Fig. 6: Interrelation of Cairo International Airport & Greater Cairo Region.
Source: Author.

4- Conclusion

Great International Airports have become major indicators of competitiveness of regions in the framework of world global economy and grand international exchanges networks. Platforms are currently performing as major regional poles where three main characteristics are present on and around them: 1) major regional workplaces "job creators", 2) urban centralities of international activities and related services, 3) multimodal interchange nodes (air, rail, road). These characteristics have lead many specialists to describe the phenomenon as an "Airport City".

All over the world, the growth of Airport Cities is an issue that have to be faced by airports and respective regions. But not every situation is equally adequate for such development. "Why and how an AC is realized here", or "Why no AC is developed there" are equally important questions which may find some answers among the objective factors mentioned in this paper. Yet, to understand the individual features of every situation, the prevailing conditions have to be considered: economic and political in terms of the necessity for an AC, and environmental and social in terms of its feasibility.

Concerning the case of Cairo International Airport, this latter stands actually on crossroads. While some ways can lead it to prosperous future with regard to air traffic and economic/urban impacts, others can certainly compromise its capabilities and confine its regional role. The possibility for the creation of a significant "Cairo Airport City" with its positive economic/urban impacts, depends deeply on the willingness to put CIA, from now on, in a vital position within the regional development scheme.

This goal could not be achieved without a coordinated vision between airport authority and local/regional authorities which aims at, on the one hand, eliminating the various obstacles facing CIA future development: limited airspace capacity, modest landside access, hazardous surrounding urbanization, ...on the other hand, enhancing the existing opportunities: future platform expansions, potential eastern GCR development, linkage with efficient metropolitan transportation systems, and finally, the orientation of the economic welfare of its region towards international exchanges.

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