ZAMALEK EDUCATIONAL LAND USE RE EVALUATION ADDRESSING PROBLEMS AND RECOMMENDATIONS

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ABSTRACT
Zamalek district is unique with its urban fabric which hosts various activities and land uses, each activity attracts different users thus there are many problems facing these districts in reference to the mobility, Zamalek educational land use is the main problem and these districts are no longer compatible for contemporary urban mobility. Related to the above reasons Zamalek suffers from lack of space for parking, traffic congestion, lack of traffic management and pedestrian movement problems.
These problems started appearing after the 1952 revolution when a lot of the privately owned residences were nationalized and turned into Governmental and National institute schools. This transformation in Land use had drastic negative impacts on the whole district & building that will be explained thoroughly. The research listed down the Governmental and National Institute Schools in Zamalek, as well as the number of students that are enrolled in these schools. It also studied the Zamalek population and especially the school age bracket and whether they go to these schools or not. Arc GIS software was used to define the zone of service for each school in order to evaluate whether there is a lack or surplus in different categories of schools. A questionnaire was distributed over the Zamalek residents to help evaluate the educational service in this district.
Finally, the researchers propose recommendations that could save both the state authorities and the community a lot, and could be applied to other similar districts, such as Maadi, Heliopolis and Garden City.

ARTICLE HISTORY
Received 31 December 2020; Revised 7 April 2021; Accepted 25 April 2021

KEYWORDS
Education services; land uses; reuse; high value buildings; urban planning; environmental impact

History background
The name Zamalek itself was borrowed off a nearby Giza hamlet called al-Zamalek situated southwest of Embaba town. Different interpretations of ‘Zamalek’ have come up over the years. The most common legend is that Zamalek is the plural of Zemlek, a loose Albanian term meaning a village made up of primitive huts built from straw or reeds. The original huts located...
on the island were allegedly living quarters to either military conscripts or servants attached to palaces and sarays belonging to wealthy merchants living in the then superior district of Bulak (also spelt Bulaq, Boulac, Boulak).

Up until 1900, the only thing on the island sporting the appellation Zamalek was a small iron bridge linking Gezira island’s midsection to the then-empty fertile expanse of Giza with the pastoral hamlet of Zamalek within view. In 1913, the still nascent street bisecting Gezira’s waist was straightforwardly called Avenue Zamalek. Linking the island’s eastern and western Nile crossings the street very quickly became the island’s qasaba or commercial lifeline, with a Cairo-Pyramids tramway line running through it. Figure 1 shows a 1934 advertisement for school. Over time, Avenue Zamalek changed its name to Avenue Fouad before becoming 26th of July Street after 1952[1].

Figure 1. 1934 advertisement for School in Zamalek.
The Island’s area is 600 feddan, it is divided almost equally into two parts: the northern part that hosts all the residential, commercial and administrative land use and the southern part that hosts all the public services, such as Gezira club and fish garden, etc.[2].

First schools

One of the first pre-1925 schools to open in Zamalek was run by the Catholic Church. Later on would come the Catholic Girls College off Bahgat Ali Street and the St. Joseph Preparatory School for Boys off Gabalaya Street (today Brazil Street) as shown in Figures 2, 3a, 3b, 4a and 4b. It was not long before non-denominational and secular schools opened on the island as well.

Foremost among the island’s schools was the ‘Zamalek School’ founded in 1930 by Madame Valentine Morin. At first located at No. 25 Mohammed Mazhar Street, then known as Rue Mario Rosi, it moved in 1933 to the abandoned premises (1.5 feddans) of turn of the century prime minister Mustafa Fahmy Pasha at No. 4 Ibn al-Mashtub, overlooking the Fish Garden. Whereas the school later disappeared part of its grounds became the German Embassy in the 1980s. But the privilege of being the island’s very first school goes to the Austria-Sudan (Catholic) Mission also known as the Fathers of the African Mission or La Negrizia, which opened the previous century on the northern part of the island and named after the Pope Leo XIII[1].

Zamalek current schools [3]

From the search on the site of Ministry of Education and Technology, this was the list of the schools subject to the ministry:

(1) Zamalek National Mixed School
(2) Zamalek School for Girls
(3) Zamalek Preparatory/Secondary School for Girls
(4) Zamalek School for Boys
(5) Gezira Experimental School
(6) Gezira Language School
(7) Portsaid Language School
(8) Portsaid American School
(9) Portsaid British School
(10) Lycee El Horeya School
(11) St. Joseph School
(12) Amoun School
(13) El Zamalek El Qawmeya Arabic/Language School
(14) Baby Home
(15) Education Home American Section
**Figure 2.** Zamalek map early-1920s with both the Catholic school for girls and St. Joseph.
Figures 3. A and B show Zamalek School for Girls and the horizon line appears diversified, tending to Art Nouveau architecture. (National Organization for Urban Harmony).
Figure 4. (a) St. Joseph School façade. B. St. Joseph school entrance.
(16) City British International School
(17) City American International School

Schools that are not subject to the Ministry in Zamalek district are:

(1) Pakistan School
(2) Lycee Francais School

In total, there are 19 schools in Zamalek Island, 9 of which are Governmental Schools and National Institute Schools; they all rest on the northern part of the island, which is almost 300 feddan.

As previously mentioned, most of these schools are not planned in the original land use planning of Zamalek to function as schools nor were they designed according to the architectural standards of school design because they were originally houses that were nationalized and turned into schools, only two of them were designed originally to function as schools and these are the schools that were built with the emergence of the district and these two were: ‘St. Joseph School’ and ‘Zamalek school for girls’ that was the catholic school before as previously mentioned, and as shown in the map in Figure 2. This transformation in Landuse and Typology of buildings has led to a great negative impact not just on the Zamalek district but to the surrounding districts.

In the upcoming paragraphs brief info is introduced about these schools.

**National institute schools historical background**

The schools of the national institutes have an ancient history as French and English foreign governments were establishing schools affiliated with them in Egypt in both Cairo and Alexandria cities. A Lycee al-Hurriya school was established in Bab al-Luq in 1909 on Mazlum Street; then, it was transferred to its current headquarters in Youssef al-Jundi Street in Bab al-Luq in 1931 in Alexandria. Lycee El Horreya building was established in Alexandria in 1914, adding to it the departments of laboratories, theater and stadiums. In the year 1939, Alexandria moved with its sons to university education, and it responded to the desire of the Lycee director, who created a secondary section that studies the Egyptian curricula to prepare their children for Egyptian universities, as well as a primary section was established that studies Egyptian curricula, and since formal education in Egypt was free according to the constitution, it was not possible to convert these schools to public schools, and experimental schools had not been established yet. Hence, a body was established to include these schools and evolved until things settled on the current situation, which is the General Assembly of National Institutes. The National Institutes became a general educational cooperative
society that includes 39 educational institutions in Cairo, Alexandria, Giza, Port Said and Minya, and some of these institutions have become schools with Arabic curricula and some are English or French language schools.

The establishment of the general assembly of the National institutes

Republican Decree No. 70 of 1957 was issued establishing national institutes of education to include English schools and Lycee schools, as well as Ministerial Decree No. 266 of 1973 established the establishment of an educational cooperative association for each school. The schools are subject to the direct supervision of the Ministry of Education, and these schools are spread in Cairo governorates 22 schools and Giza 6 schools and Alexandria 9 schools and Minya one school and Port Said one school building the General Assembly of the National Institutes.

Gezira language school

It was established on 9 April 1973 and was named officially on 25 June 1973 in the Official Gazette, the number and date of approval of the Minister for secondary education 10/74, and the number and date of the final license 17/6/1979, and the authority that the license was issued by the Ministry of Education.

The school owns 13 buses.

El Zamalek El Qawmeya Arabic/language school

It was named officially on 6/4/1973 in the Official Gazette, type of education is Arabic and language.

The school owns 13 buses.

Port said school

The school was established in 1840 and was named after Al-Manor House; it used to follow what is called foreign education and was owned by an English woman named Miss Paulen. This lady rented some buildings and villas in Zamalek and she prepared school classes and not all of these buildings were one piece but rather separate buildings and the number reached five buildings in Dr. Taha Hussein Street and Ahmed Heshmat Street. Mrs. Paulen hired British female teachers to teach the English language and other subjects. The curricula were not at that time subject to the Ministry of Education and she was free to choose the curricula. In the stage of nationalization, schools were secured, and their successions transferred to national institutes. The school
owns 25 buses. Figures 5A and 5B show Port Said American section school and Figures 6A and 6B show Port Said national primary school, while Figure 7 shows Port Said British School.

**Lycee El Horreya Language School**

The school was established in 1973. Figure 8 shows Lycee El Horreya School. [4]

**Governmental schools**

From the Governmental Schools, only Zamalek School for girls as shown in figures 3A and 3B and El Gezira Experimental Secondary School, those have a villa on its land. The Zamalek School for girls is registered as a building of value by the ‘National Organization for Urban Harmony’.

But the Villa of El Gezira Experimental Secondary School in our opinion as researchers is not any less of value than the historic valuable villas of Zamalek, but it is currently in a very bad condition structurally as shown in Figure 9A, B, C and D.

The upcoming tables list all the info gathered at the Governmental and National Institute Schools.

Port Said Zamalek resident students estimated number = 1770 (total number of students) – 1250 = 520

From the above table we conclude the following:

- Total number of students = 12,324 students from Kg to grade 12.
- Total number of students resident in Zamalek = 1563 students from Kg to grade 12
- Percentage of Zamalek resident students = 1563/12,324 = 12.6 %
- Not all the schools have buses, but the total number of buses offered by schools are 51 buses; transportation in rest of the schools depends on private cars and taxi cabs and micro-buses.

**Zamalek schools locations and service range**

The following maps were created by ArchMap GIS (Geographic Information System) software to locate the schools and to show the different schools classified by its stage and buffer zone that each stage should serve according to planning standards:

- Kg stage: buffer zone = 400 m as shown in Figure 10.
- Primary stage: buffer zone = 750 m as shown in Figure 11.
- Preparatory stage: buffer zone = 2000 m as shown in Figure 12.
Figure 5. (a) Port Said American section School entrance. (b) Port Said American section School Facade.
Figure 6. (a) Port Said national primary school façade. (b) Port Said national primary school entrance.
Secondary stage: buffer zone = 5000 m as shown in Figure 13.

According to planning standards of Egypt, there is a school service buffer zone area that is specified by the maximum travel distances that the student should travel for each educational stage as shown in Table 1–3[5]:

(Planning rates and standard guide in the Arab Republic of Egypt – General Authority for Urban Planning-2016)

The previous map, as shown in Figure 14, shows that educational services in the Zamalek area provided by government schools and national institutes form a great surplus in educational service that is considered over and above...
Figure 9. A: Gezira Experimental Secondary School façade. B: Gezira Experimental Secondary School façade and entrance. C: Gezira Experimental Secondary School entrance. D: Gezira Experimental Secondary School entrance details and ornaments.
the need of this island. This is in addition to a number of eight private and international schools in Zamalek by analyzing the population pyramid of the area as shown in
Figure 12. Preparatory stage, buffer zone = 2000 m.
Figure 13. Secondary stage buffer zone = 5000 m.
Table 1. List of Schools, its categorization, no. of students, no. of classes, density and no. of students from Zamalek residents.

| School                                           | Type                              | No. of Students/classes | Kindergarten | Primary | Preparatory | Secondary | Total number of Students | Total number of classes | Number of students from Zamalek |
|--------------------------------------------------|-----------------------------------|-------------------------|--------------|---------|-------------|-----------|--------------------------|--------------------------|---------------------------------|
| Zamalek National Mixed school                    | Governmental Schools              |                         |              |         |             |           |                          |                          |                                 |
| Zamalek School for Girls                         |                                   |                         | 159          | 4       | 40          | 1403      | 18                       | 78                       | 1562                            |
| Zamalek Preparatory/Secondary school for girls   |                                   |                         | 208          | 4       | 52          | 1927      | 30                       | 64                       | 3337                            |
| Zamalek Preparatory/Secondary school for boys    |                                   |                         |              |         |             |           |                          |                          |                                 |
| Gezira Experimental School                       |                                   |                         |              |         |             |           |                          |                          |                                 |
| Gezira Experimental School Primary/Preparatory    |                                   |                         | 208          | 4       | 56          | 696       | 13                       | 54                       | 624                             |
| Gezira Experimental School                       |                                   |                         |              |         |             |           |                          |                          |                                 |

(Continued)
| School                                       | Type                      | Total number of Students | Total number of classes | Number of students from zamalek |
|----------------------------------------------|---------------------------|--------------------------|-------------------------|---------------------------------|
| Gezira Language School National Institutes   |                           | 1112                     | 30                      | 29                              |
| Portsaid Language/British/American School    |                           | 1770                     | 54                      | 520                             |
| El Zamalek El Qawmeya Arabic Language School |                           | 1180                     | 37                      | 0                               |
| Lycee El Horreya Language School             |                           | 243                      | 14                      | 10                              |

Since Port Said School administration gave us only the number of buses they are operating and refused to give us the number of Zamalek residents students, the researchers calculated the number of students that go by bus and subtracted this number from the total number of students to come up with the Zamalek resident students estimated number: 25 bus x 50 Student = 1250
On the other hand, this surplus can be observed in the governmental educational services in Zamalek by analyzing the population pyramid of the area, as shown in chart 1.
From the above tables and population chart we conclude the following:

(1) The total Zamalek population in 2017 was 14,946.
Table 4. The population by ages for Zamalek district.
The population of the age bracket between 5 and 20 years old is 319 (age from 5 to 10) +382 (age from 10 to 15) +457 (age from 15 to 20) = 1158 children.

Number of students enrolled in Governmental Schools and National institute schools in Zamalek is 12,324 students.

Total number of governmental school and national institutes school students resident in Zamalek is 1563, while total population of school age bracket of Zamalek district is 1158 children from ‘Central Agency for Public Mobilization and Statistics’, this figure shows that there is conflict between number of Zamalek population and number of Zamalek resident students officially enrolled in these schools, this illogical figure was explained from the principals of these schools, where they explained that most of these figures were enrolled in the schools by ‘falsifying the address of residence’ to meet the condition of ‘the residential square’, which is required from the Ministry of Education policy in distributing the students according to the closest school to their residence,Sc while the real residence districts of these students are ‘El Warrak’, ‘El Barageel’, ‘Bashteel’ and ‘Le’ba’ (Reference interview with school principals).

According to the population chart (chart 1), the larger number of population falls between 55 and 60 years old, which requires a totally different type of services.

That is why Zamalek District is called ‘School complex’ because on such a small area exist large number of schools.

Zamalek questionnaire

The researchers also made a questionnaire to explore the Zamalek residents’ opinion toward the existence of Governmental and National Institutes schools, and this was a sample of responses for 40 parents to children in the age of school education.

Questionnaire taken by Zamalek residents:
Q1: What is your son/daughter age?

Chart 2 shows survey answers that were as follows:

- age 15–18 = 65%
- age 12–15 = 18%
- age 6–12 = 22%
- age 4–6 = 5%
Chart 2. Age bracket percentages.

Q2: Do they go to schools inside or outside Zamalek?

Chart 3 shows survey answers that were as follows:
Inside: 7.5%
Outside: 92.5%

Chart 3. Percentage of students that go to schools inside and outside Zamalek.

Q3: If outside Zamalek, then why do they go to schools outside Zamalek?
38 responses were ‘better education and schools’

Q4: Are you pro or against the existence of the Governmental and National Institutes schools in Zamalek?

Chart 4 shows survey answers that were as follows:
Pro: 7.5%
Against: 92.5%
Chart 4. Percentage of local residents that pro and against existence of Governmental and National Institutes schools in Zamalek.

Q5: If you are against then why?
38 responses were ‘Most of the students are not Zamalek residents which create unbearable traffic jams.’

Q6: If your children now are older than school education age, did they use to go to schools in Zamalek?
Chart 5: Survey answers that were as follows:
Yes: 10%
No: 77.5%
Other: 12.5%

Chart 5. Percentage of students who used to go to schools inside Zamalek.

You live in same street or close to any Governmental or National Institute school in Zamalek?
Chart 6 shows survey answers that were as follows:
Yes: 87.5%
No: 12.5%
Chart 6. Percentage of Zamalek residents who live in same street or close to any Governmental or National Institute school in Zamalek.

Impacts of governmental and national institutes schools in Zamalek

From all the above: tables, maps, charts and questionnaire we can conclude that the existence of the Governmental and National Institute schools in Zamalek district has great negative impact from all aspects and could be concluded as follows:

Socially

On both Zamalek residents and students that go to these schools from outside Zamalek since these schools has transformed the district to a highly crowded district, which poorly affected the quality of life of the Zamalek community, also the outsider students waste a lot of time, effort and money to reach these schools daily.

Economically

The outsider students do not have any means to reach these schools except through transportation because it is not a walking distance which add an economic burden on the parents to pay for transportation every year, same for Zamalek resident students who had to go to schools outside Zamalek because these schools do not offer the education level they are looking for, this is beside the energy burned daily in the form of ‘solar fuel’ to transport both types of students to and from their schools which forced the authorities to connect the Zamalek with the third line of underground Metro to serve these schools and faculties and decrease the high traffic in Zamalek, not to mention that this connection has cost the country very large amount of money.

While the land areas of the National Institute schools and Governmental Schools in Zamalek are approximately 39,000 m² = 9.3 Feddan (from GIS software calculations) = 3.1% of Northern Island’s total area.
Figure 15. Pictures of schools buses jamming the traffic in Zamalek district.
And the price of 1 m$^2$ in Zamalek in the same zone = 80,000 LE[7]

Which means that $39,000$ m$^2$ land is worth $= 35,000,000,000$ LE, 35 Billion Egyptian Pound, which is a great asset to the ministry of education.

With this amount of money, the ministry can afford to build schools in the districts of these students.

**Infrastructure**

Since these schools that were imposed in these areas do not offer the kind of services and education level that the original surrounding community needs, this consequently forces them to reach outside the district for the level of education they look for and, therefore, pose more pressure on traffic as shown in Figure 15, which leads the authorities to build more bridges and tunnels and underground metro to relieve this pressure on the traffic, and we can observe the following impacts:

1. Total blockage in the traffic of the main and some of the secondary streets in Zamalek district around the school entry and leaving time,
2. This blockage leads to blocking 15th May bridge.
3. Blockage of 15th May bridge leads to the blocking of 26th July axis, which in turn blocks Mohandessin district as well.

**Environmentally**

The air pollution has risen in Zamalek due to the exhaust of the high traffic of school transportation from private vehicles to taxis and buses to transfer this huge number of students, which is 10,761 thousand students every day to and from Zamalek district.

**Planning & services**

According to the maps, we can observe great overlap of same stages of schools in same area which results in a surplus of educational service in this small considerable area, while the Zamalek residents students population do not exceed 1158 students; on the other hand, the older age is the dominant population of Zamalek residents which requires a whole different type of services.
Conclusion and recommendations

The world is heading toward 15 minutes cities where the citizens of the city could access all their needs and activities within 15 minutes and so this city becomes healthier city[8].

But the current distribution of educational services, that are concentrated in Zamalek district while other districts are deprived from same services, does not serve anyone and definitely does not help the city to become healthier but more and more jammed and polluted.

And, therefore, the researchers recommend transforming these huge assets into projects that would serve the public and the Zamalek residents and bring investments and profits that the government could benefit from and invest a portion of this budget on building schools in the districts where the outsider students come from and save everyone the time, effort and money spent every day.

Some of these schools that are large in areas could be transformed into health services since the greater population of Zamalek population are above 55; others that are smaller in areas could be rented as administrative and cultural land use, such as museums. Since the Zamalek Island accommodated a lot of the celebrities from actors, singers, poets and writers, it is an opportunity to transform some of these villas into museums that perpetuates their legacy and role in the community.

These types of land uses preserve the buildings in better status and avoid its deterioration, and also do not attract the huge traffic with all its negative impacts.

These recommendations could be realized as follows:

(1) The Ministry of Antiquities and the National Organization for Urban Harmony should classify the villas of these schools: Gezira experimental secondary school – Gezira language school – Portsaíd language school (National-British-American) on four villas – Lycee El Horreya, whether these villas are antiquities or buildings of value in order to preserve these buildings and ensure its proper maintenance and reuse.

(2) After classifying these villas, the villas that are classified of high value by National Organization for Urban Harmony or classified as antiquities by the Ministry of Antiquities should be turned into cultural activities and museums; since the Zamalek Island accommodated a lot of the celebrities from actors, singers, poets and writers, it is an opportunity to transform some of these villas into museums that perpetuates their legacy and role in the community.

(3) Findings of this research came to a conclusion that these schools do not serve Zamalek residents and also the densities of the school classes are considerably high beside that these students come from distant districts, such as: ‘El Warrak’, ‘El Barageel’, ‘Bashteel’, ‘Le’ba’ which
create very high traffic with all its negative impacts which leads the researchers to recommend transferring these schools and moving it to the districts of the students that were previously mentioned, and since land areas of the National Institute schools and Governmental Schools in Zamalek are approximately 39,000 m² = 9.3 Feddan (from GIS software calculations) = 3.1% of Northern Island’s total area.

And the price of 1 m² in Zamalek in the same zone = 80,000 LE, which means that 39,000 m² land is worth = 35,000000000 LE, 35 Billion Egyptian Pound, which is a great asset to the ministry of education; then, by this amount of money the ministry can buy lands and build schools at the students districts.

This could be achieved through the following steps:
- Stop registration for newcomer students
- Start locating vacant lands that are suitable for building schools at ‘El Warrak’, ‘El Barageel’, ‘Bashteel’ and ‘Le’ba’
  - Start moving the schools with low-class density to these areas.
  - Move the rest of schools to these areas.
  - Until finishing moving all these schools from Zamalek, e-learning schooling, which is adopted since COVID-19 spread out, could continue on to decrease traffic jams in Zamalek.

4. Opposition and confrontation of the fact of ‘falsifying the address of residence’ to meet the condition of ‘the residential square’, which is required from the Ministry of Education policy in distributing the students according to the closest school to their residence.

Similar projects have been already realized in downtown Cairo when a group of investors decided to form a company called ‘Al Ismailia’ and save some of the heritage buildings of downtown by buying and restoring these buildings and renting these buildings to host suitable use, such as ‘La Viennoise’ building. [9]

Such reuse could be applied in Zamalek when full awareness of historic, cultural and heritage value of Zamalek is perceived.

**Disclosure statement**

No potential conflict of interest was reported by the author(s).

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