

DILEMMA OF UNIFYING BUILDING FACADES COLORS: CASE STUDY: “ASSIUT” CITY – EGYPT

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In the last few years, many of Egyptian cities tried to unify the colors of their buildings. One of these cities is “Assiut” city. The trial was made as an initiative by Assiut ex-governor. This initiative has been rejected by some architects and supported by others. Each group has its reasons and its points of view. This paper aims at analyzing the case of coloring building facades of Assiut city and answering a crucial question about the degree of rejection or acceptance of unifying colors of building facades from the perspective of academic architects versus the public. The paper will present the main architectural features of “Assiut” city before and after unifying its facades colors. Then, the paper presents the results of a questionnaire answered by the academic architects in Assiut. Finally, the paper presents the most important results of the study and discussion of the results. The most important results of the study are that most academic architects refused the unification of façades colors at the city level, but they support selecting a color scheme for every area. Also, they support selecting flexible color schemes that give architects flexible selection of the suitable colors for each building depending on variables of the building and its circumstance.

1. INTRODUCTION

Color can play various roles in the built environment. It can improve and beautify the existing residential neighborhoods, confirm and highlight the identity of residential neighborhoods, achieve visual homogeneity between the old and new residential areas, increase citizens' feeling of belonging to the neighborhood, increase aesthetic taste, refine the behavior of individuals [1], and improve the visual image of cities [2].

1.1 Research Problem and Questions:

One of the visual problems of the Egyptian cities is the random selection of building facade colors of by architects, building owners, contractors and others involved in the color decision making. Although the Egyptian union building law stressed on taking into account the harmony between colors of new facades and colors of the facades that surround it in order to give a sense of beauty and realize a special character for the area; in the real life [10], the municipal authorities do not ask architects to present color schemes for the new facades and their surrounding colors. The result is random selection of colors and no color scheme through whole the city, districts or neighborhoods.

In the last few years, many of Egyptian cities tried to unify the colors of their buildings (such as Alexandria, Quena, Luxor ...etc – Fig.1)



a. Luxor city facades painted in light yellow.



b. Alexandria city facades painted in white.

Fig. 1: Unifying color within many Egyptian cities in the last decade.

All of these trials were made as an administrative decision or an initiative by the governors of these cities. One of these cities is “Assiut” city. The trial was made as an initiative by Assiut ex-governor between years 2005 – 2011*. This initiative has been rejected by some academic architects and supported by the others. Each group has its reasons and its points of view.

This paper seeks answering the central question; that is:

What is the degree of rejection or acceptance of unifying colors of building facades?

In order to answer to this question, the paper should find answers to these secondary questions:

- What are the reasons of unifying colors of building facades?

* The governor of city Assiut between 2005 – 2011 the General “Nabil El-Ezaby”

- What is the process or the mechanism used in unifying colors of building facades?
- Do the specialized academics accept this decision?

1.2 Research Aim:

This paper aims at answering the central question and finding the degree of acceptance or rejection from the academic point of view.

1.3 Tools and Limitations:

The research is based on a questionnaire designed by the researcher to get opinions of the academic architects who live in Assiut city, before and after the initiative, and their degree of acceptance or rejection of unifying of facades color.

1.3.1. Tools :

A questionnaire designed by the researcher implements direct and indirect questions that ask the respondents about the unification of colors of building facades in Assiut city. The questionnaire includes an introduction that presents the aim of the survey and an optional part that asks about the personal data of the respondent. The first part of the questionnaire asks about the acceptance of process and mechanism of selecting colors and painting facades. It includes the following questions:

- *Do you live in one of these areas where the municipal authorities have unified building colors?*
- *If you are a resident of an area where facade colors were unified, what was the impact of this change on your character?*
- *Did the Municipal authorities poll your opinion before selecting colors of the city?*
- *Should the municipal engage citizens in making the color decision of their city?*
- *Do you believe that the governor has the authority to select the color of building facades in his Governorate's cities?*
- *Do you find the mechanism, which is used to take the decision to unify the colors of building facades in Assiut, appropriate?*
- *How was the process of painting facades?*

The second part of the questionnaire concentrates on accepting or refusing unifying facades colors, its advantages and disadvantages, and suggestions of the academic architects. Questions in this part include:

- *What is your preference as a choice for coloring building facades of the city?*
- *Do you agree that the unification of building facades colors improves the visual image of the city?*
- *How far has the unifying of facades colors succeeded in improving the visual image of the city?*
- *What do you feel about the selected colors?*
- *Is your perception to the city influenced by the unification of facades colors?*
- *Do you think that the color distribution has been studied before painting facades?*

- *Do you think that the municipal authorities should unify colors of other districts, not yet colored in Assiut city?*
- *What is the most appropriate way of approaching coloring facades of a city?*
- *What are the most important advantages and disadvantages achieved by unifying colors of facades?*
- *Is it good to repeat Assiut trial in the other Egyptian cities?*

1.3.2. Limitations:

For the purpose of this research, Assiut city was selected as a case study for many reasons:

- Assiut character, urban pattern and visual image resemble those of most Egyptian cities. In addition, it is located in the middle of Egypt and has links with all governorates in the country.
- The existence of a big number of academic architects (72 academic architects*). This is beside more than 150 architects enrolled in postgraduate programs (Diploma, M.Sc. and Ph.D. programs). All of them live the experience of changing facades colors in Assiut city.
- Experience of the researcher about the study area and the direct observation for the transformations in study area.

Academic architects who live in Assiut city represent the community of this research.

2. ASSIUT CITY, BEFORE AND AFTER UNIFYING FACADES COLORS

As mentioned in the research problem, many of Egyptian cities tried to unify the colors of their facades. All of these trials were mad as an administrative decision or an initiative by the governors. One of these cities is “Assiut” city.

2.1 Assiut City:

“Assiut” city is the capital of Assiut governorate. It is one of the medium Egyptian cities in the Upper Egypt region. Assiut city is located at 27°11'00"N 31°10'00"E. Today, the city of Assiut has almost 400,000 inhabitants (Fig. 2). Assiut city is an ancient city. It is one of the oldest cities in Egypt. It was around 1500 B.C. when man in Assiut started building up his civilization. Some of the oldest monuments discovered, dating back to the dawn of history, bear the names of sites where the remnants of the "Tassa" and "Al Badari" civilizations were found. Since old times, Assiut had had an important role to play in the history of Egypt. It was also an export and import centre, particularly of ebony and ivory imported from Sudan.

* Assiut University has a faculty of engineering established in 1957. It includes a department for architectural engineering. This department has 40 academic staff members (assistant professors, associate professors or professors) and 32 academic assistants.

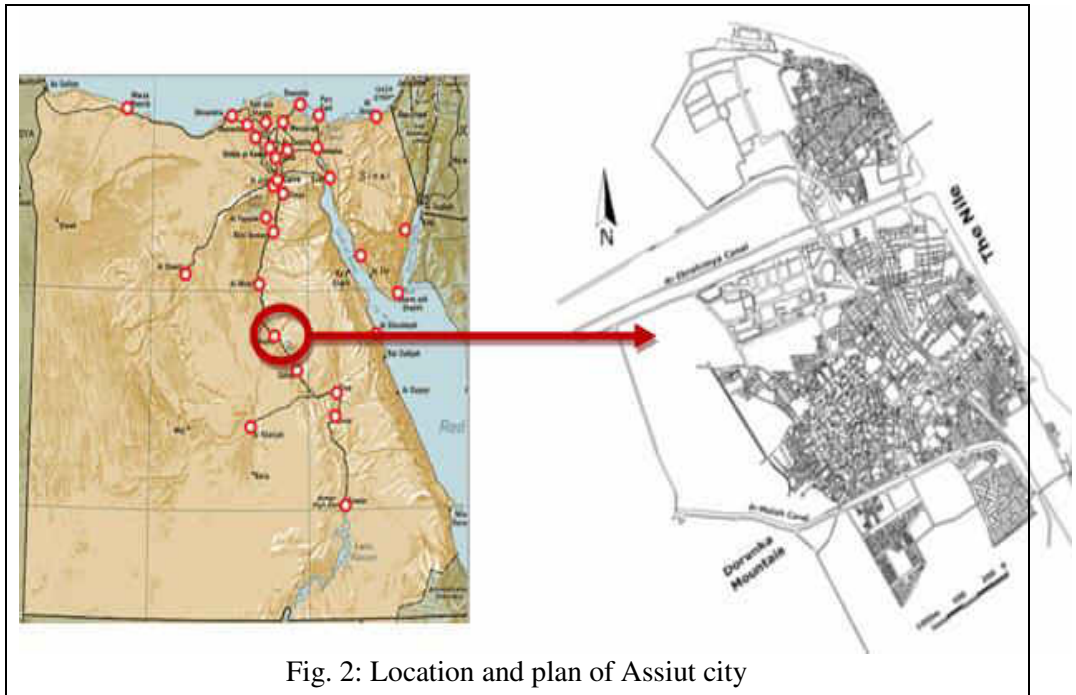


Fig. 2: Location and plan of Assiut city

2.2 Assiut City before Unifying its Colors:

Laws and building regulations did not require local administration and control bodies to organize colors of buildings facades. This fact led to several random practices in the selection of facade colors. The choice is both individual and separate for each facade without taking into account the general image of the street as a whole or the color of each facade in relationship with its neighboring colors. Apart from such practices, some citizens leave facades without finishing or painting. There are a lot of reasons for these practices such as the economical, cultural factors, awareness and understanding of the impact of the visual image of the street on the behavior of the population (Fig.3).

2.3 Assiut City after Unifying its Colors:

Although the impressions of citizens strongly welcome the new appearance of their areas; they refused the mechanism of painting their building facades because the municipal authorities forced people to paint facades without any governorate participation in the painting costs. The researcher (as a specialist in selecting colors of building facades) found that the municipal authorities made some mistakes beginning by the unknown reasons behind selecting the two used colors, neglecting factors that affect the color selection process such as building value and use, climate, physiological and psychological factors of the citizens [3], [5], [6], [7], [9] and – eventually- the mechanism of executing this decision and painting facades (Figs. 4,5,6,7).



a. Ezbet Elseign area



b. Mahmoud Rashwan Street



c. El Gaish street.



d. Al-Azhar street

Fig. 3: Visual image of some areas and streets showing their color character before the initiative of unifying building façade colors . Images show the random selection of colors and non painted areas.



Fig. 4: Yousry Ragheb street:the right part of the image is a water tank tower – the middle part is a residential building – the left part is an office building. All had been painted by the same colors (dark red and white yellow).



Fig. 5: El-Gamaa street: the frontal part of the image is a partial sanitary station - the higher buildings are residential buildings.



Fig. 6: Sity Street : the right part is a mousque – the left part is residential buildings.



a. Cheicoril square.



b. Old residential house in Mohamed Ali Makarem st.

Fig. 7: Neglecting the historical factor and building value by painting old buildings using the same colors

3. STUDY RESULTS

Using an online questionnaire designed by the researcher and applied on the senior and junior academic staff (assistants), and architects who are postgraduate students at the dept. of architectural engineering as a community of the survey. The target no. of respondents is 100 academic architects from all categories (Professors, Associates and assistant professors, assistants and postgraduates students). No. of the questionnaire respondents is 42 (42%). Results were calculated based on the number of respondents.

Results were divided into two parts: Points from “A.1” to “A.5” show the results of part **A** of the questionnaire, points from “B.1” to “B.8” show the results of part **B** of the questionnaire as follows:

3.1 Results of Part A:

A.1. Living in a unified color sector and its effect:

29.27% of respondents are living in one of these areas were municipal authorities unified colors of buildings. 50 % of them found that the effect of unifying colors is a positive one. 33.3% of them found that the effect of unifying colors is negative.

A.2. The importance of citizen participation in selecting colors of their city:

100% of the respondents confirmed that the Municipal authorities didn't poll their opinion before selecting the color of the city. 78% of the respondents stated that the municipal authorities **should involve citizens** in making the color decision of their city. 14.6% of respondents stated that it is not necessary to involve citizens in this process.

A.3. The authority of the governor to select color of building facades in his governorate's cities:

29.3 of the respondents believe that the governor is entitled to select color of building facades in his governorate's cities. Otherwise, 70.7% believes that it is not his job.

A.4. Mechanism of selecting city colors:

78% of the respondents stated that the mechanism, used to take the decision to unify the colors of building facades in Assiut, is not suitable mechanism. 7.3% of the respondents found it suitable. Most of the other respondents didn't know what the used mechanism is.

A.5. Studying color distribution before painting facades:

85.4% of the respondents stated that there aren't any studies for color distribution before painting facades and distribution was on the spur of the moment.

3.2 Results of Part B:

B.1. Degree of preferring unifying color of building facades in the city:

31.7% of respondents prefer unifying building facades colors in the city, and 31.7 prefer color diversity in building facades. 36.6% have free answers. Most of them prefer unifying facades colors in a district or sector of the city.

B.2. Role of color unification in improving the visual image of the city:

Although 70% of the respondents agree, totally or partially, that unifying facades colors improves the visual image of the city in general; 54% of the respondents found that unifying of facades colors has succeeded in improving the visual image of Assiut city. 36% of respondents found that unifying facades colors has failed to improve the visual image of Assiut city.

B.3. Influence of unifying facades colors on the perception of the city:

22% of respondents found that the perception of the city was strongly influenced. On the other hand, 78% say that the perception of the city was slightly influenced or not affected at all (22%).

B.4. Feelings towards the selected colors:

35.7% of respondents feeling monotony towards the selected colors. 31% of respondents have a sense of order. Table no.1 shows results of feelings towards the selected colors

B.5. Advantages and disadvantages of unifying colors of city building facades:

Respondents set a lot of advantages and disadvantages points for unifying colors of city building facades; as summarized in table 2.

Table 1: Results of feelings towards the selected colors:

Feelings towards the selected colors	%
A sense of boredom	28.6
A sense of monotony	35.7
A sense of order	31.0
A sense of delight and vitality	2.4
A sense of light and purity	2.4
I feel nothing	0.0
Total	100.0

A 3D pie chart illustrating the distribution of feelings towards selected colors. The largest slice is 'A sense of monotony' at 36%, followed by 'A sense of order' at 31%, and 'A sense of boredom' at 29%. Smaller slices represent 'A sense of light and purity' (2%) and 'A sense of delight and vitality' (2%). The 'I feel nothing' category is 0%.

Table 2: Advantages and disadvantages of unifying colors:

level	Advantages	Disadvantages
At the building façade level	<ul style="list-style-type: none"> • Senses of order, beauty, unity, cleanliness, distinguished character and visual comfort; • Disposing dust made buildings appear new; • Highlighting the vocabulary and style of facades; • Finishing buildings facades neglected for a long time; • Elimination of random practices of inhabitants to color some parts of the facades; • Avoiding the existence of facades painted by striking or uncomfortable colors. • Facades became fully finished and in harmony with the surroundings. 	<ul style="list-style-type: none"> • Selecting the same colors for different building types and functions; • Similarity and the disappearance of the details because of the common color; • Distortion of architectural heritage and religious buildings; • Light colors looked dirty and filled with dust in the absence of a sound cleaning and maintenance system; • Incompatibility of selected colors with some of affecting factors such as climate and surrounding environment; • Losing the expressive and suggestive capacity of the building; • Some facades appear as cut and paste paper; • Difficulty to be a landmark ; • Disappearance of distinguished building facades; • Mismatch between the original design and color of the building, and executed color in terms of areas and places; • Restricting and denying the architect from one of the important architectural formation tools; • Blurring the identity of historical buildings and its archaeological value as a result of changing its original color.

level	Advantages	Disadvantages
At the district level	<ul style="list-style-type: none"> • The existence of a general character that combines elements of the area and distinguishes it. • A sense of comfort when passing through neighborhoods or city areas. • Senses of order, beauty, unity, cleanliness, distinguished character and visual comfort. • Appearance of harmony • The visual appearance of the city became better. 	<ul style="list-style-type: none"> • Areas painted by red color are very large in light of the hot climate of Assiut; • Similarity between streets; • No study for the distribution of colors on the facades at the street level; • Individual implementation of coloring without supervision led to a non-uniform color tone; • Lack of individual identity of the streets and the presence of a monotonous character; • Loss of discrimination between district; • The high cost; • Focusing on specific streets and rich areas and neglecting other neighborhoods.
At the level of whole city	<ul style="list-style-type: none"> • Senses of order, beauty, unity, cleanliness, distinguished character and visual comfort. • Raising the public taste that has deteriorated over the last decades; • Reducing the random selection of colors; • The city has a color identity and character; • Increasing citizen awareness about the need to address the random and chaos of facades coloring. 	<ul style="list-style-type: none"> • Not taking into account the specificity of the city or its history and heritage. • Paying attention to the city appearance as a whole look and setting plan for it and applying it to everyone. • Lack of a uniform color in all areas of the city affects the appearance of the city.

B.6. Unifying colors of other districts not yet colored in Assiut city using the same colors used before:

Results showed that 7.3% fully agree to unify the appearance of the city. But, 26.8% are not convinced, but they agree to prevent the random appearance and maintain the visual image of the city. 41.5% of respondents do not agree and see that each neighborhood or district should have its own colors.

B.7. Appropriate ways of thinking in colors of city building facades:

50% of respondents prefer selecting colors from the allowed color range. 37.5% prefer that every district have its own color scheme. 2.5% see that every street should have its own color scheme 2.5% see that color should be unified in all building facades. No one agrees that citizens choose colors of their building facades freely (table.3).

B.8. Repeating Assiut trial in other Egyptian cities:

34.1% of respondents don't agree to repeat Assiut trial in the other Egyptian cities. 58.5% agree to repeat Assiut trial in the other Egyptian cities taking into consideration some comments. The free opinions of respondents explain that every city has its circumstance, economic realities and climate and other factors. It is important to study each city separately and set the suitable color scheme for it.

Table 3: The suitable ways of thinking in colors of city building facades:

Ways of thinking	%
Colors should be unified in all building facades	2.5
Each area should have its own colors	37.5
Each street should have its own colors	2.5
Selecting colors from allowed color range	50
Citizen should choose color of facades freely	0.0
Other	7.5
Total	100.0

4. DISCUSSIONS

Although citizens like and welcome the trial of unifying colors of some areas in Assiut city, academics found that the trial has a lot of mistakes. The first mistake is the idea of unifying colors of a city itself. Buildings, streets, squares and neighborhoods are similar. This affects the urban design of the city and citizens lose perception of property. The second mistake is that governors think that it is an administrative decision not architectural and urban one that architects should study and take it. The third mistake is selecting the color scheme without any academic study or public participation. The fourth mistake is forcing citizens to paint their building facades without respecting the laws. The fifth mistake is leaving the execution process to the individuals without technical supervision, which led to bad finishing in most of the building facades.

Referring to questionnaire results, academic architects had different views. The majority found that unifying color of facades in a city had few advantages compared to numerous disadvantages. The majority of these disadvantages are because of the improvisation and non-studied decisions.

5. CONCLUSIONS

Most academic architects refused the unification of façades colors at the city level, but they support selecting a color scheme for every area. Also, they support selecting flexible color schemes that give architects flexible selection of the suitable colors for each building depending on variables of the building and its circumstance. Most academic architects refused repeating Assiut trial in other cities in Egypt, but they support reviewing the process of studying the effect of unifying colors of the city on the visual image of the city.

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جدلية توحيد ألوان واجهات المباني دراسة حالة : مدينة أسيوط – مصر

في السنوات القليلة الأخيرة إنتشرت ظاهرة قيام عدد من المدن المصرية بتوحيد ألوان واجهات مبانيها، وكانت مدينة أسيوط هي إحدى هذه المدن بمبادرة من محافظ أسيوط الأسبق. وقد قوبلت المحاولة بترحاب كبير من قبل قطاع كبير من المواطنين بينما قوبلت بتأييد من بعض المعماريين و برفض من البعض الآخر بناء على وجهة نظر تخص كل مجموعة منهم. وتهدف هذه الورقة البحثية الى تحليل حالة توحيد ألوان واجهات مدينة أسيوط في محاولة للإجابة على سؤال محوري حول درجة قبول أو رفض المعماريين الأكاديميين لعملية توحيد ألوان واجهات المباني بشكل عام من منظور أكاديمي في مقابل القبول العام للفكرة من المواطنين. ولتحقيق هدف البحث، تتناول الدراسة في المقدمة المشكلة والأسئلة البحثية والأداة المستخدمة (الإستبيان) ومحددات البحث. ثم تتناول الدراسة بعد ذلك تعريف بمدينة أسيوط قبل وبعد عملية توحيد ألوان الواجهات. وفي الجزء الثالث من الدراسة يتم عرض نتائج الإستبيان الذي تم إجراؤه على المعماريين الأكاديميين بمدينة أسيوط. وقد اختتمت الدراسة بمناقشة لأهم النتائج التي تمثلت في رفض معظم المعماريين الأكاديميين لعملية توحيد ألوان الواجهات مع موافقتهم على تحديد خطة لونية لكل منطقة بحيث تتسم بالمرونة التي تسمح للمعماري بالإختيار الذي يلائم الظروف والعوامل المؤثرة على كل مبنى.