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## Towards an economic efficiency of the space of the public place Case of the public places of city of Biskra / Algeria.

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### Abstract

The public place is not just a simple public outdoor space for the circulation and meeting of townspeople it is to create a set of psychological reactions and to grow the notion of urbanity. The use of the public place relates to the entire life cycle of townspeople. It concerns the practices and uses implemented by all parts in the public place. This communication seeks to find out how and by what means to optimize the economic efficiency of the public place space from its landside. That is to say, to account in the medium and long term for the land reserved and consecrated for public place in a city or town in general.

Through this research, we will try to see the different possible forms of optimization relating to activities, land and the form of the public place, while looking for the appropriate form of optimization for the public place of the city of Biskra / Algeria, a city in a semi-arid zone.

**Keywords:** Public place; use; Users (population); efficiency; optimization; economic efficiency; arid zone.

### 1. Introduction

Observing the city through a satellite image, at first glance we notice that the public space (ways, streets, avenues, place...etc.) organizes the city.

The public place is an area that ensures social and cultural exchanges, festivities, commemorations, interaction, transmission of news, communication and commercial exchanges (function of commerce compatible with the function of leisure and recreation); fitted out with furniture and urban decorations like a theatre stage where the city dweller both actor and observer, whose artists multiply the visual effects.

The purpose of this communication is to seek the strong points and the preferred elements among the users of public areas. Thermal complex sidi yahia Biskra / Algeria; the Aqua Palm complex, Biskra / Algeria; the swimming pool of Hotel Barbari / Biskra / Algeria and the hammam salihine thermal complex Biskra / Algeria; for projects and adaptations to public places in the city of Biskra / Algeria. To attract users and make the land of the places profitable, then achieve economic efficiency.

### 2. Problematic

«Outdoor spaces play a very big role in promoting the quality of urban life. Their modes of use depend on microclimatic physical properties that can increase, limit, direct or modify their uses.» (Bertrand, 1984). The public place is not a simple public space reserved for traffic, the meeting of city dwellers, but it is there in the city or in the city to create a set of psychological reactions and to encourage urbanity among city dwellers while improving the quality of the urban living environment( Aziz Amen, 2017, Amen & Kuzovic, 2018, Aziz Amen & Nia, 2018) . According to Hanafi (2010 and 2018) the abandonment of use of public places in the city of Biskra / Algeria (Saharan city), is related to two elements: the first, the lack of thermal comfort, which forces users to leave public places, or frequent them occasionally. The second element is the lack of attractiveness sought by users. (Hanafi, 2010 and Hanafi, 2018). This abandonment of use discourages the authorities and the owners of the cities from considering new public places during the urban design either for a new city or for the extension of the city. Moreover, is limited to the planning of shopping centers, malls, swimming pools, parks, etc. so as not to waste their land. Therefore, the problem is to research and see the various forms of possible optimizations relating to attractive activities to account for the land reserved for public places in the city of Biskra / Algeria.

### 3. Article Highlights

- Seek for the different forms to count the land reserved for public places in the city of Biskra / Algeria.
- Seek for activities relating to different forms to account for land in public places in the city of Biskra / Algeria.
- See the various possible solutions, relating to activities, the insertion of new street furniture, etc.
- Seek the appropriate solution for public places in the city of Biskra / Algeria.

#### 4. Material and Methodology

- The approach used in this research began with a field survey and the use of the questionnaire as a technic research.
- Morphological, spatial, environmental, urban analysis, etc. public places in the city of Biskra / Algeria.
- Seek for an activity that is attractive to users and at the same time financially profitable for the managers of public places.

#### 5. Users (population) of the public place

The population frequenting a public place is make up of all users at a given time. Thus, it includes men, women, children, and all social classes without segregation or elimination: poor, rich, unemployed, beggar ... etc. (Hanafi et al, 2022)

##### 5.1. The animation of the public place

Animation is the opposite of calm, coldness and rest. It is the character of what is animated, lively, and full of life. For Gauthiez (2003), it is the intensity of use of a free public space, by individuals, vehicles and domestic animals. (Gauthiez, 2003). This term is commonly used to designate the intensity of social life and its external manifestations in an agglomeration, neighborhood and a street. (Choay et al, 2000) In addition, the animation of a district or a public space has as a factor the nature and the number of their functions as well as how of use, circulation and frequentation of the latter. (Hanafi et al, 2022)

#### 6. City of Biskra / Algeria

The city of Biskra is the capital of the wilaya. It is classified by the Algerian state as a southern wilaya. Its geographical location is 34.80 North latitude and 5.73 East longitude. In addition, it is located at an altitude of 87m from the sea. Its site is basin-shaped, limited to the north by the Saharan Atlas and the Zab chain to the west. (Sriti, 2012)



Figure 1. Satellite image of the city of Biskra / Algeria. (Source site web: www.Google Earth.com)

We note that its topography gradually decreases from north to south. The city of Biskra is crossed by two rivers: Biskra river to the east and Z'mor river to the west. (Sriti, 2012)



Figure 2. City of Biskra, location. (Hanafi, 2018)

The climate of the city of Biskra / Algeria is characterized by a harsh climate, maximum temperature reached in July 38°C as it can exceed 40°C (under shelter). On the other hand, the low temperature in January can always drop below 8°C. For the relative humidity, it is low while the rains remain rare. (Sriti, 2012)

**Table 1.** Monthly temperature variation in the Biskra region (2000-2016) (Meziani, 2017)

	J	F	M	A	M	J	J	A	S	O	N	D
<b>T ma x (°C)</b>	17.5 0	19.0 0	23.5	26.3 3	33.0 0	37.5	42.3 3	39.0 0	35.5 0	29.0 0	22.9 4	17.5 0
<b>T min (°C)</b>	6.54	7.50	11.5 2	15.0 0	19.8 6	24.5 5	29.0 0	28.0 0	23.0 0	19.0 0	12.0 0	8.40
<b>T mo y (°C)</b>	11.3 3	15.0 0	16.0 0	22.5 0	27.0 0	31.6	36.0 0	34.1 8	29.0 0	23.5	20.0 0	12.6 7

The prevailing winds are from the North-West / South-East direction and blow at an average speed of 6 to 12m/s, the maximum wind frequencies are recorded in the months of January, May and June. Rainfall in this region is rare and does not exceed 31 days per year and the annual total reaches 200 mm. (Capderou, 1987)

The duration of sunshine on the national territory exceeds 2000 hours / year, in the highlands and the Sahara it reaches 3900 hours / year. (Liebard et al, 2005)

**Table.2** Distribution of solar potential by region. (Web site: <https://www.cder.dz>)

Regions	Coastal regions	Highlands	Sahara
<b>Area</b>	4%	10%	86%
<b>Average sunshine duration (h/year)</b>	2650	3000	3500
<b>Average energy received (Kwh/m<sup>2</sup>/year)</b>	1700	1900	2650

The incident solar radiation is very intense and of the order of 7680 wh/m<sup>2</sup> on a horizontal plane during the month of July, which corresponds to sunshine duration of 383 hours and which, can exceed 12 hours per day. (Capderou, 1987)

### 7. Places studied / public places of the city of Biskra / Algeria

The city of Biskra contains only a limited number of public places, of course which carries the notion of the public place, while eliminating free spaces and clearances. The public places affected by the study are: Place Hai Istiqlal Biskra / Algeria; Place Dhalaa Biskra / Algeria; Place El-Houria / Biskra / Algeria; Place Ben Badis / Biskra / Algeria and finally Place Zouaka / Biskra / Algeria. (Hanafi et al, 2021)



**Figure 3.** (a) : satellite image of Ben Badis place / Biskra. (Hanafi et al ; 2019) (b) : Location map of Place Ben Badis / Biskra. (Hanafi, 2018)



**Figure 4.** (a) : Satellite image of Dhalaa / Biskra place. (hanafi et al; 2019) (b) : location map of Dhalaa / Biskra place. (Hanafi, 2018)





**Figure 5.** (a) : Satellite image of El-Houria place (Hanafi et al ; 2019) (b) : Location map of El-Houria Place. (Hanafi, 2018)



**Figure 6.** (a) : Ground plan of Hai Istiqlal place. Established by the author. (b) : Location map of Hai Istiqlal place. (Hanafi, 2018)



**Figure 7.** (a) : Ground plan of the Zouaka public place, green space / mineral space. Established by the author. (b) : satellite image of Place Zouaka. (Hanafi, 2018)

Public space is a concept that carries several definitions. That of immaterial space and that of concrete place (Amen et al., 2023, Aziz Amen, 2022). The first, immaterial public space, virtual by its nature, where it constitutes elements of the debate specific to democratic life, assembly, knowledge; and the second materialized, concrete and inhabited public space; formal or informal support of any social life; gathering, meeting, leisure, games...etc. (Hanafi, 2018). The public place is both a "convergent" space, that is to say: having internal elements likely to attract city dwellers, and a "divergent" space, which imposes a certain relationship on the surrounding urban structures.

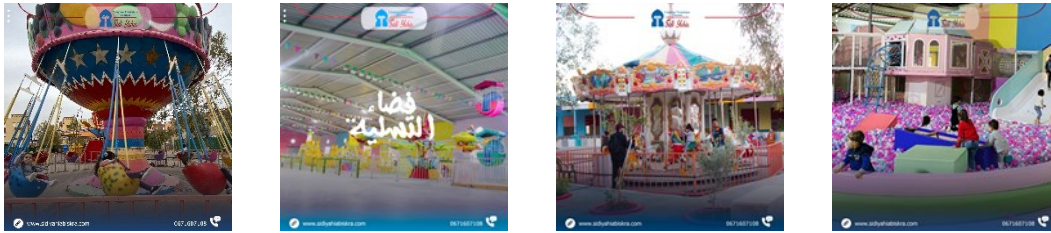
However, the places of the city of Biskra: El-Houria place, Ben Badis place, Zouaka place, Istiklal place and others are not used. A space deserted by its users most of the time and in the best of cases occupied and used occasionally or exploited as terraces of the cafeterias of its proximity and their uses are related to the functioning of the latter. (Hanafi et al; 2017).

### 7.1. The user (population) between public space and leisure equipment

People seek out their interests and needs in public spaces and leisure equipment; what we see is that public places such as: malls, shopping centers, supermarkets, tea rooms, parks, etc. provide people with opportunities that put public spaces second to constantly frequented spaces.

We cite a few examples contributing to the absorption of users of public places in the city of Biskra / Algeria: Opening of the thermal complex sidi yahia Biskra / Algeria

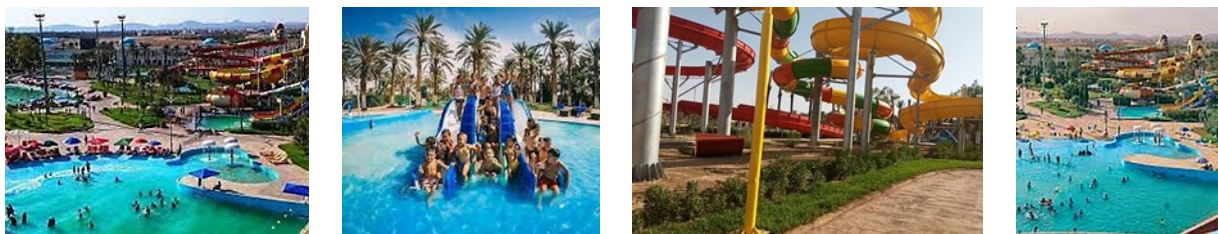
It is a complex: tourism thermal + thermal clinic + Water Park + thermal and a thermal treatment center. In addition, the main thing in all this is that this complex was able to attract people: children + women through its amusement park for children.



**Figure 8.** Relative to the children's amusement park of the thermal complex Sidi Yahia Biskra / Algeria, where children find their pleasures with their parents. Source: site web: <https://www.sidiyahiabiskra.com>

### 7.2. Opening of the Aqua Palm complex, Biskra / Algeria.

Located in the palm grove of Feliache, between Biskra and Sidi-Okba, "Les jardins des Zibans" is the gigantic project of Ali Serrauoui, promoter and investor of this complex. The project covers seven sectors of activity: The Aqua Park; an amusement park; a shopping center; accommodation structures, sports and clinical complex, a tourism institute and a cinema city. Today the Aqua Palm is finalized and already welcomes the first swimmers. What attracts more people (men, children and women) is that the Aqua-parc has: 32 slides, a wave pool, 10 pools including three for children, and a pleasure river of 641 meters. (Site web: <https://www.skyscrapercity.com>)



**Figure 9.** Various photos relating to the amusement park for children, Aqua Palm complex / Biskra / Algeria. (Source: site web: <https://www.skyscrapercity.com>)

### 7.3. Hotel Barbari / Biskra / Algeria

This hotel is unrated. What prompted us to quote it in our article is that the owner of this hotel has equipped the hotel swimming pool with two slides, which attracts children from the city of Biskra / Algeria with their parents in the summer period, day and night.

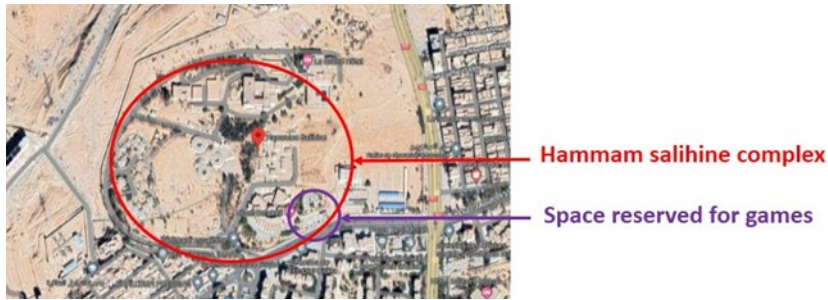


**Figure 10.** Relating to the Hotel Barbari Biskra / Algeria swimming pool. Just equipped with two slides, which attracts children where they find their pleasures with their parents. (Source: site web: <https://www.trip.com/hotels/biskra-hotel-detail-54516947/hotel-barbari>)

### 7.4. Thermal complex hammam salihine Biskra / Algeria.

The Hammam Salihine thermal complex is located west of the city of Biskra / Algeria on the main road to Batna, Se also has 72 air-conditioned bungalows with all amenities, hotel, restaurant and cinema. The management of this complex has reserved a playground and attraction for children. The latter attracts people of all categories, especially children.





**Figure 11.** Hammam salihine thermal complex Biskra / Algeria. Source: Google Earth.



**Figure 12.** Some children's games inserted in the thermal complex hammam salihine Biskra / Algeria. Photos taken by the author.

In this sense, we must think about how and by what means we can attract people (population) and direct them towards public places in order to account for the land reserved for public places in the goal of achieving the economic efficiency of public places in the city of Biskra / Algeria.

We mean, by efficiency achieving the desired results by making optimal use of material and immaterial resources, while minimizing the negative impacts induced.

#### **That means,**

- How to make public places in the city of Biskra / Algeria more financially profitable.
- How to make the public places of the city of Biskra / Algeria a financial source for the interest of the state or its owners.

### **8. Analysis and study**

#### **8.1. First strategy for the economic efficiency of the space of public places in the city of Biskra / Algeria.**

This strategy was touched upon in an earlier research by the same author, under the title: towards a high intensity of use of the public place of the arid cities; where we thought about activities with all its types. Considering that, the big places such as: Market place / Ghardaia / Algeria and Place jamaa el fna / marakech / morocco; Occupied and animated by different activities: commercial, tertiary and services.

##### **8.1.1. Examples**

##### **8.1.2. Economic efficiency of Jamaa El Fna place / marakech / morocco**

Jamaa El Fna place is next to the Koutoubia mosque. It is a historic and religious monument. Place JEMAA-EL-FNA is the heart of the medina (old city) of Marrakech. Its history of the place, the creation of the place dates back to the birth of the Medina of Marrakech and Convergence of many of the tracks. (Hanafi et al; 2019)



**Figure 13.** (a): chart morocco / marakech. (b): Place jamaa el fna / marakech / morocco. (c): Plane sketch of mass jamaa el fna. (Hanafi et al; 2019)

What increases and expands the economic efficiency of this place is the intensity of spectacular and original activities; in addition, it receives festivals all year round and the convergence of a large number of routes and the multipurpose of its space: circulation, display of merchandise, games, etc.



**Figure 14.** Jamaa El Fna place / Marrakech / Morocco. (a): in the morning, (b): in the afternoon, (c): in the evening. (Hanafi et al; 2019)

This place is the culmination of the tourist pilgrimage to Marrakech, the geographical and cultural center of the medina and the meeting point (crossroad) between craftsmen, traders, traditional artists, fire-eaters, acrobats and snake charmers...etc. it takes place in Marrakech, the flagship city of the Almoravids, founded around 1070,

its objective was to control the outlets of the Atlas. It becomes the capital of a vast empire under the regime of Youssef BENTACHEFIN to extend under the ALMOHADES to the border of Libya. It was a great center of Islamic art. (Hanafi et al; 2019)

### 8.1.3. Economic efficiency of the market place (the souk) / Ghardaia

- It is the only large public place in the city. This last aspect perhaps corresponds to the second name of the souk: rahba, which in Arabic designates a vast place and this, was how the large place was called in the first Muslim cities. It is the center of economic life and commercial activity.
- The marketplace has a primary function; it is the trade (economic activity); that makes it lively and animated, this animation and liveliness of the place is since its creation with a national scale.
- It not only has an economic role but it is also a meeting place for the exclusively male population.
- It takes place on the outskirts of the city, rejecting the intimate space in this sense to allow nomads to sell their goods without being able to enter the intimacy of the city.
- It is a space for men, they work there, meet people there and it is a place entirely forbidden to women. Surrounded by houses and shops.



Holiday celebrations at the market place / Ghardaia



Celebrations of the Carpet Festival at the Market place / Ghardaia



View of the market place of the city of Ghardaia

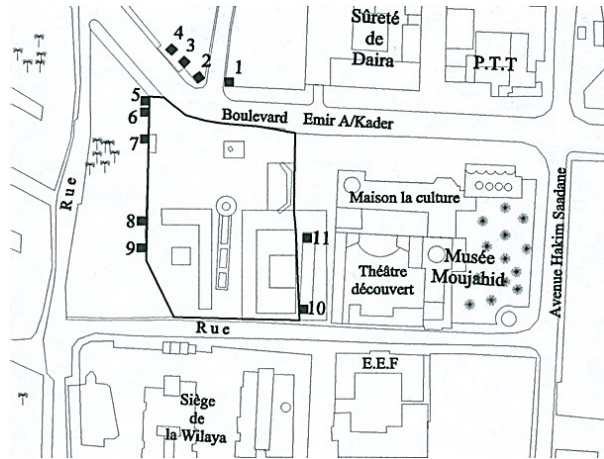
**Figure 15.** Market place of Ghardaia / Algeria. (Source: author's archives)

**8.2. Discussion**

The economic factor represented in trade and some services at the level of these two examples: the market place (the souk) / Ghardaia / Algeria and Jamaa El Fna place / marakech / morocco, pushes the economic efficiency of the spaces of the places already mentioned. Where they are attended permanently and throughout the year in addition to the financial profitability for the population of the two places.

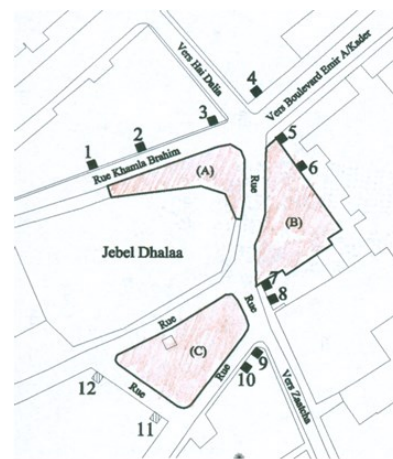
At the level of the places of the city of Biskra / Algeria. We touch this economic factor. There are the shops, which surround the different places. Nevertheless, it remains weak and to a certain limit which has not been able to push the economic efficiency of the places of this city where we must seek and adopt a more effective strategy.

- 1: cafeteria;
- 2: sale cassette ;
- 3: shower;
- 4: selling clothes ;
- 5: cassette sale ;
- 6: fast food ;
- 7: cafeteria ;
- 8: cyber café ;
- 9: hairdressing salon
- 10: bookstore ;
- 11: cafeteria



**Figure 16.** El-houria place mass plan, various activities that surround it. (Hanafi et al; 2019)

- 1: creamery;
- 2: baby cloth's
- 4: grocery store ;
- 5, 6 and 8: cafeterias
- 9: sale cassettes ;
- 10: cafeteria;
- 11 and 12: various unstable activities



**Figure 17.** Dhalaa place map, various activities surrounding it. (Hanafi et al; 2019)

**8.2. Second strategy for the economic efficiency of the space of public places in the city of Biskra / Algeria.**

We conducted a study and analysis on public places animated all the time and marking an acceptable intensity of use during the year to see the attractive strengths of the latter and the projections in the breasts of the public places of the city of Biskra / Algeria in order to achieve economic efficiency.



So the questionnaire as a technic research is based on the question: what attracts people more to public places: thermal complex sidi yahia Biskra / Algeria; the Aqua Palm complex, Biskra / Algeria; the swimming pool of Hotel Barbari / Biskra / Algeria and the hammam salihine thermal complex Biskra / Algeria.

## 9. Investigation in situ

The survey was conducted using the questionnaire of technic research on two types of populations:

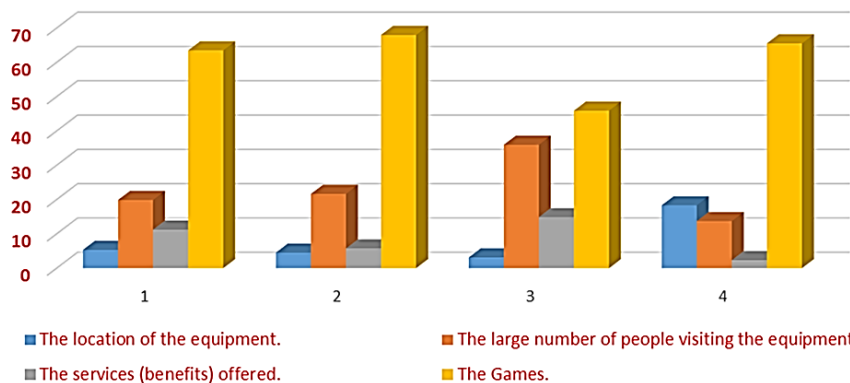
### 9.1. Conduct of the questionnaire 1

The first related to the population of public places: thermal complex sidi yahia Biskra / Algeria; the Aqua Palm complex, Biskra / Algeria; the swimming pool of Hotel Barbari / Biskra / Algeria and the hammam salihine thermal complex Biskra / Algeria. To identify the real elements that attract people and why.

#### The questions focused on the elements that attract people

- The location of the equipment.
- The number of people visiting the facility.
- The services (benefits) offered.
- The Games.

### 9.2. Results



**Figure 18.** Graph relating to the questionnaire of the populations of public places. Established by the author:

- 1: thermal complex sidi yahia Biskra / Algeria
- 2: the Aqua Palm complex, Biskra / Algeria
- 3: the swimming pool of Hotel Barbari / Biskra / Algeria
- 4: the hammam salihine thermal complex Biskra / Algeria

### 9.3. Discussion of the graph (figure 18)

According to the results of the questionnaire, games attract people from all categories of men, women and boys for all the public places studied. The rate varies from: 45.95% up to 68.00% compared to other activities.

### 9.4. Conduct of the questionnaire 2

It relates to the population of public places in the city of Biskra:

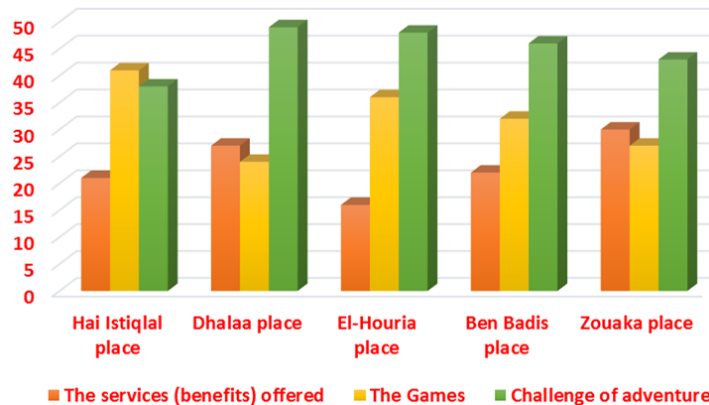
- Hai Istiqlal place, Biskra / Algeria;
- Place Dhalaa, Biskra / Algeria;
- Place El-Houria, Biskra / Algeria;
- Place Ben Badis, Biskra / Algeria;
- Place Zouaka, Biskra / Algeria.

#### The questions focused on the elements that attract people

- The services (benefits) offered.
- Games.
- Provoking adventure:
  - free fall,
  - raised to a high height,
  - slide in a swimming pool,
  - slipping in the sand,

- take a walk at a great height,

## 9.5. Results



**Figure 19.** Graph relating to the questionnaire of the populations of the places of the city of Biskra / Algeria. Established by the author.

## 9.6. Discussion of the graph (figure 19)

According to the results of the questionnaire, the users of the places suggest in the first place challenge of adventure and the games in second position so that the public place meets their aspirations.

## 10. Recommendations

Our objective of this communication was to achieve the economic efficiency of public places in the city of Biskra / Algeria. In this sense, we are not obliged to attract people (men, women, children) to these places and permanently. In addition, users must operate the places, consume, and pay for the services and benefits offered for the interest of either the places the authorities (A.P.C) or their owners.

Following the questionnaires started, we arrive at the results that it is necessary to insert and introduce urban furniture or attractive equipment creating adventure among users, offering them pleasure, and pleasantness.

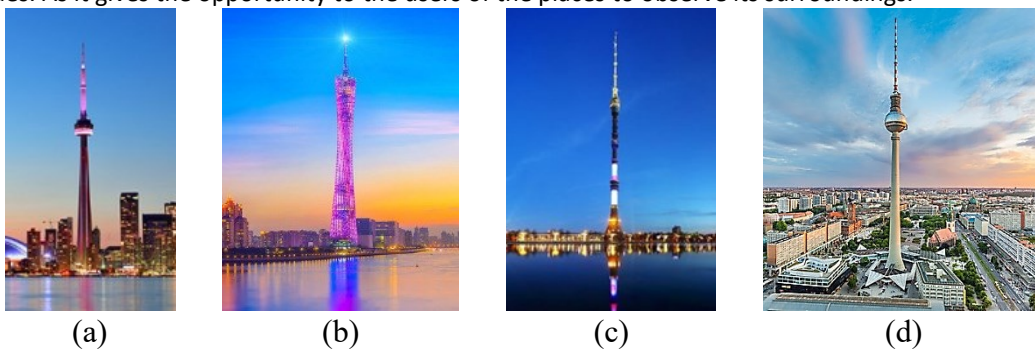
### 10.1. Proposals

#### 10.1.1. The insertion (the introduction) of turns

Metallic or concrete has a great height equipped with a telescope to allow users to have a panoramic view of the city of Biskra / Algeria in addition the ride will be with a panoramic lift.

These towers are symbols of power; in addition, they can become emblems of the cities where they are located.

Their design provides an opportunity for architectural creativity and the implementation of innovative construction techniques. As it gives the opportunity to the users of the places to observe its surroundings.



**Figure 20.** Relating to the different towers in the world. (Source: author's archives)

- CN Tower - Toronto, Canada; The CN Tower or CN Tower supports a telecommunications antenna, bringing its height to 553 m.
- Canton Tower - Canton, China: This hyperboloid-shaped tower, like water towers, also gives the impression of being twisted. It was built to support a 150m telecommunications antenna for the 2010 Asian Games. Guangzhou.
- Ostankino Television Tower - Moscow, Russia: Sitting in the middle of a park in the Ostankino Castle district, this slender tower broadcasts the programs of several television and radio stations. Its antenna rises to

540 m. Very popular with Muscovites, it is also an important tourist attraction, although it experienced a serious fire in 2000, which caused several deaths.

Its restaurant is closed, but its observation point, located at an altitude of 337 m, remains accessible to groups; part of its floor is glass. It is accessed by ultra-fast elevators.

(d) Berliner Fernsehturm - Berlin, Germany: Conceived as a symbol of the prowess of the GDR, this television tower is planted in the heart of Berlin, near Alexanderplatz. The East German regime is gone, but this 368 m high building remains, to the delight of Berliners and tourists. Its sphere, originally supposed to evoke the Sputnik satellite, contains observation spots located at an altitude of more than 200 m. It also houses a bar and a restaurant which has the particularity of rotating on itself. In other words, when you are at the table, you are offered a 360° panoramic journey above the city.

### 10.1.2. Inserting Slide toboggan

The length of the largest water slide in the world is one thousand one hundred and eleven meters. Recently inaugurated in Malaysia. The attraction, which received a distinction from the Guinness Book of Records, belongs to the Space amusement park, located on the island of Penang / Malaysia.

(Site web: <https://www.costacroisieres.fr/costa-club/magazine/famille/parcs-aquatiques-monde-famille.html>)



**Figure 21.** Largest water slide in the world, Espace amusement park, located on the island of Penang / Malaysia.  
(Source site web: <https://www.costacroisieres.fr/costa-club/magazine/famille/parcs-aquatiques-monde-famille.html>)

Slide toboggan can pour users into the water as one can use it at a bed of sand. In the city of Biskra / Algeria, since it is a Saharan city, people are used to sand.



(a)



(b)



(c)

**Figure 22.** Relating to the different types of toboggan slides, pouring on: water, sand or grass.  
(Source: author's archives)



### 10.1.3. Rocking boat

The rocking boat, always called: pirate ship. It is a pendulum-type attraction, a sort of giant swing.

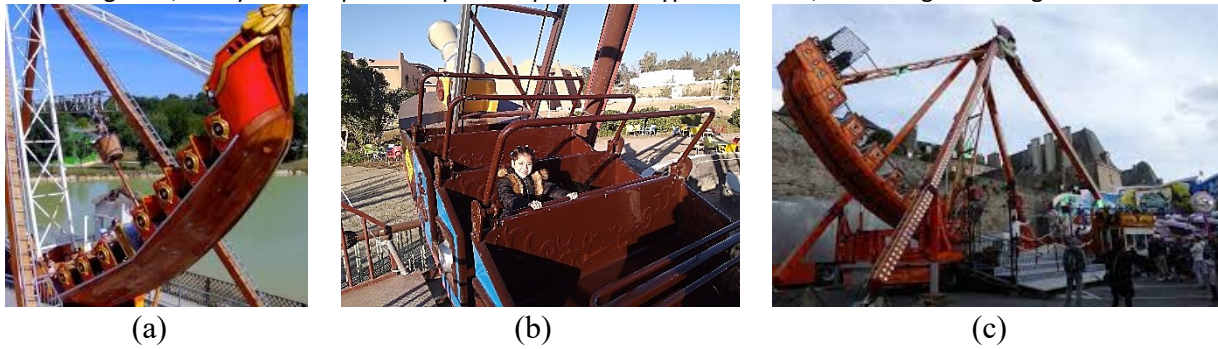


Figure 23. Different types of Rocking Boat. (Source: author's archives)

### 10.1.4. Panoramic walkway

The panoramic footbridge can be designed as a landscaping allowing circulation between the three parts of the public place Dhalaa Biskra / Algeria. Since this place consists of three parts. This footbridge will serve as a link between the components of the place and create a promenade for users. In addition, used it by exploiting the Dhalaa mound.

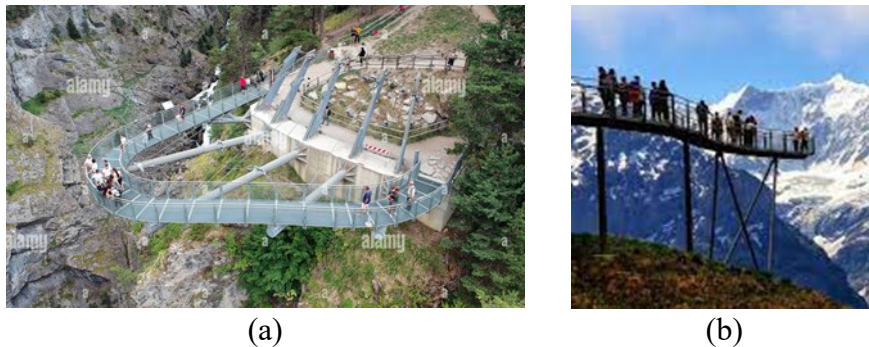


Figure 24. (a) And (b) some types of designs and use of panoramic walkways. (Source: author's archives)

## 11. Conclusion

The choice of our subject was after a different reading of the city and its public spaces. The latter was never being just a space to be used on a daily basis. The city is a good that belongs to society. Therefore, we have to live in it as a large residence, a living space and keep it for future generations.

The city is made up as a whole of 'built' and 'non-built', the latter is presented through the public space: roads, streets, avenues and especially public places.

Take care of the public space and its role that must play it in the city in addition to the lack of use of public places in the city of Biskra / Algeria by their users.

The proper use of public places requires a detailed knowledge of all the elements that can improve the conditions of use of the latter. So we thought of new attractive elements and update them to users for better use.

After the study and analysis and field survey of the various public places: thermal complex sidi yahia Biskra / Algeria; the Aqua Palm complex, Biskra / Algeria; the Hôtel Barbari / Biskra / Algeria swimming pool and the hammam salihine Biskra / Algeria thermal complex, recording a high rate of use.

We arrived at the result that the public places of the city of Biskra / Algeria must have new street furniture, which representing:

- Panoramic walkway.
- Rocking boat.
- The slide toboggan insertion.
- In addition, the insertion (introduction) of turns.

To attract people to places for financial return. Subsequently, we come to the economic efficiency of the land of the places. This encourages the authorities to consider new public places with the aim of creating conviviality for the population of the city of Biskra / Algeria.

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**Conflict of Interests**

The authors declare no conflict of interest.

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