

# THE LOCATION OF THE CITY'S CLASSIFIED ESTABLISHMENTS AND THEIR DANGER TO THE URBAN ENVIRONMENT. A CASE STUDY OF M'SILA CITY/ALGERIA

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*Key-words:* environment, pollution, classified facility, risk studies, impact studies, M'sila.

**Abstract.** In this paper, we address the issue of classified facilities and the problems they cause, as well as their impact on the urban environment at the urban level in Algeria. These facilities have caused many problems in terms of pollution of all kinds, at the level of the urban perimeter of the city, especially of the visual and auditory kind. Facilities of the first and second class are considered to be the most dangerous (factories, fuel pumping stations). However, harassment and annoyance are found at the level of urban agglomerations in which the facilities classified as category three and four (Technical blacksmithing, Carpentry) distributed in an irregular manner, which caused a distortion in the aesthetics of the city. Therefore, the study of the city of M'sila was addressed due to the accelerated spread of the third and fourth categories of classified facilities, and this amid its urban surroundings. These facilities emerged in such a chaotic manner that they are not subject to the laws of configuration and there is no clear study to determine how they exist in terms of number, distribution and spread within the city. In addition to that, the illegal transgressions of the exploiter (the artisan) by displaying his work on the pavement and obstructing the movement of pedestrians, and the dangers arising from the classified facilities by placing the work equipment near dwellings, although several new laws have been issued stipulating how to deal with this type of facilities, such as Law 03-10 of 19-07-2003 on environmental protection in the framework of sustainable development, and the last decree 06-198 of 31-05-2006, which regulates the regulation applied to institutions classified to protect the environment, Executive Decree 07-145 of 19-05-2007, which defines the scope of application, the content and the means to validate a study of the impact on the environment.

## 1. INTRODUCTION

Talking about the environment has become a fundamental current issue and has become an increasingly complex and intertwined problem, which created an urgent need for intervention and leading careful studies of the characteristics of the urban environment and diagnosing the problems it suffers from, and the search for the causes of pollution and the procedures to be followed to solve their problems, as well as the search for compatibility between the urban environment and the risks of classified facilities.

The issue of the environment and its protection has received considerable attention at the national and international levels, owing to its close association with human life, which made governments and peoples head towards holding conferences and specialized workshops to discuss problems related to the environment.

The industrial accidents have drawn the world's attention to the seriousness of the pollution that they cause, and have prompted many bodies and governments to pay attention to the need to establish an international program that includes setting up safe and sound systems related to the manufacture of chemicals, methods of transporting and storing them, and imposing permanent control over them in order to preserve the lives of their workers and the urban environment surrounding these industries (classified plants).

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There are several incidents negatively impacting the environment, causing material and human losses such as: The Chernobyl accident of 1986 (Chernobyl nuclear explosion) (Abdel, Mohamed 1998); At the national level, Skikda refinery accident happened in 2004 (the explosion of gas site in Skikda), and there was a fire in the plastic factory in Blida in 2018, which caused material losses (www.aljazeera.net. Young 2020).

In order to reduce these risks, countries all around the world, including Algeria, seek to preserve the urban environment from the dangers of classified facilities, by reducing their increasing spread (welding, carpentry, car wash and lubrication, aluminium carpentry, mechanical repairs...), through the various urban layers of the city, whether they were planned – i.e. emerging through building and reconstruction laws – or anarchic. This can be done by enacting laws that are consistent with protecting the urban environment in general, and by creating arrangements that reduce the risks arising from these facilities, as well as by educating communities to interact positively with environmental protection laws.

The question posed is: Do the classified facilities take into account pollution, disturbance, or noise when designing city-level, urban planning schemes?

Hypothesis: The overlap between residential communities and establishments classified within the built environment result in many environmental hazards stemming from poor urban management.

The aim of this research is to: Study the development of the law of classified facilities in Algeria and analyse it taking into account the enactment of these laws at city, urban environment and the owners of these facilities level; Estimate the impact of classified facilities on the urban environment and analysing their risks; Study the laws related to classified facilities in terms of location and size in order to propose a clear methodology for selecting a plan showing the percentage of their presence at the city and residential neighbourhoods level; Find out if there are urban plans that will determine how the classified facilities are distributed at the urban environment level.

## 2. THE URBAN ENVIRONMENT

The urban environment is the architectural characteristics of the city represented by residential communities and public, social, economic, administrative, cultural and industrial installations.

### 2.1. The concept of environment

Environment in language: In Arabic, it goes back to the roots (Boa), from which the past tense (B) was taken. Ibn Manzur said in his famous dictionary “Tongue of Arabs” (“Lisan al-Arab”): Baa to the thing referred to, meaning that the environment is the descent and solutions in place.

The environment idiomatically: It is the natural, geographic, spatial and biological environment in which the living organism lives, including human beings, as well as the socio-political, moral and intellectual climate surrounding man. In English dictionaries, the environment has two terms that overlap. First, *Environment*, which means the set of external conditions or indicators that have an impact on the life of human beings, and then *ecology*, where modern ecology is defined as the medium or spatial field in which a person lives, and what it contains, the natural and human phenomena that affect it (Abdelkader, 2006).

In the same broad framework, the environment can be defined as follows: “The environment is the natural, social and economic environment in which all living organisms, including humans, interact as systems, and all external conditions affecting the life of the organism, its survival and evolution (Lawrence Yahya, 2009).

The term Ecology is derived from Greek and consists of two parts: OIKOS, meaning middle or dwelling, that is: environment; and LOGOS, meaning presentation or talk or science, and thus the overall and general meaning become ecology (Fathi Dardar, 2003).

## 2.2. Studying the impact on the urban environment

The impact on the environment is studied at several different stages, and according to Executive Decree No. 07–145, it defines the scope of application, the content and methods for approving a study and a summary of the impact on the environment. The preparation of the environmental impact study file, or the content of a study, or the impact of the summary prepared on the basis of the size of the project and the expected impacts include (Executive Decree 07–145, 2007).

- The project owner submits his title (surname), the headquarters of his company, as well as his potential experience in the field of the project to be completed.
- The presentation of the studies office.
- Establishing the study area.
- Analysing potential alternatives for the various project options by explaining and establishing the adopted options at the economic, technological and environmental levels.
- An accurate description of the original condition of the site and its environment, including its natural resources and biological diversity, as well as the land, sea or water areas likely to be affected by the project.
- A precise description of the various phases of the project, especially the construction, exploitation and post-exploitation stages.
- Estimating the types and quantities of sediments, emissions and damages that may be generated during the various stages of project completion and exploitation (e.g. waste, heat, noise, radiation, vibrations, odors and smoke).
- Evaluating the expected direct and indirect effects of the project on the environment in the short, medium and long term (air, water, soil, biological environment and health).
- The cumulative effects that can be generated during the various phases of the project.
- Describing the measures to be taken by the project owner to eliminate or reduce the damages resulting from the completion of the various stages of the project.
- Compiling an environmental management plan, which is considered as a follow-up program for the mitigation or compensation measures implemented by the project owner.

We notice that there are several decrees and laws that provide for the protection of the urban environment, from pollution of all kinds, without prejudice to the aesthetic and urban nature of the city, because this study affects several characteristics of social aspect and an economic aspect, the most important of which is the study of the urban side and the environmental aspect in terms of the degree of impact of classified industrial facilities on the environment, especially the first and second class facilities, which have a great impact on the urban environment of the city.

## 3. CLASSIFIED FACILITIES

In this section, we will be addressing the concept of a classified facility and its types, as well as the procedures for the establishment of classified facilities in Algeria, the concept of danger, its types and its impact on the urban environment.

### 3.1. The concept of a classified facility

We can take the concept of a classified facility from several sources:

- Law 10–03 of 19–07–2003 is related to the protection of the environment in the context of sustainable development in Article 18 thereof, which stipulates the following: factories, workshops, quarries and mines are subject to the provisions of this law, and in general the facilities that are operated or owned by every natural or moral person, public or private, which

may cause risks to public health, hygiene, security, agriculture, environmental systems, natural resources, sites, monuments and tourist areas, or may cause harm to the comfort of the neighbourhood (Law 03–10, 2003).

- Executive Decree No. 198–06 of 05–31–2006, governing the regulation applied to the classified facilities for environmental protection in Article 2 thereof, which defined the concept of the classified facility: every fixed technical unit in which an activity is carried out or activities are prepared from the activities mentioned in the list of classified facilities, specified in the applicable regulation (Fadhel, 2013).

Based on the above, a classified enterprise can be defined as any industrial or commercial enterprise that causes risks or inconveniences with regard to public security, health and hygiene or the environment, which requires special control in order to prevent its risks or inconveniences, the most important of which is the risk of explosion, fire, smoke, odors and water spoilage. Therefore, classified enterprises are constant sources of pollution and a threat to both the environment and humans.

We conclude that each industrial or commercial facility causes risks or inconveniences with regard to public security, health and hygiene, or the environment, all of which require special control in order to prevent risks or inconveniences, the most important of which is the risk of explosion, smoke and odors.

### **3.2. The classification standard of classified facilities and its impact on the environment**

The impact study is in the body that studies the mutual impact between development and environmental programme projects for the purpose of reducing negative consequences and maximizing positive effects in a way that achieves development goals and does not harm the environment or human health (Khaled Mustafa, 2007).

The most important of these criteria are: the risk criterion, the standard of distance from residential areas, the standard of production or storage capacity, the standard of system applicable to the designated facility (Executive Decree 06–198, 2006).

- The risk criterion: The risk criterion means the degree of seriousness of the establishment and the extent to which it affects the physical environment (residential communities, private or public properties).
- The criterion of distance from residential areas: the criterion of distance from places and housing units, where classified facilities must be removed from residential units and a particular dimension is identified, especially of the first and second category.
- The standard of production or storage capacity: This standard means the classification of the classified facilities by the type of activity, for example: by production capacity, area, size, storage and quantity.
- The standard of the system applicable to the classified facility: there are two legal systems to which the designated facility can be subject: the licensing system and the permit system, and therefore there will be two types of facilities: established and exploited by Section (a) in its establishment and exploitation of the licensing system, and a facility classified as Section (b) under its operation for the permit system (Catherine, 2001).

Law 04–20 of 25–12–2004 on the prevention of major hazards and disaster management in the context of sustainable development, which defines industrial risks in Article 32 as the general scheme for the prevention of industrial and energy hazards sets out the total arrangements, rules and/or procedures for the prevention and risk reduction of explosions or gas emissions and fire, as well as hazards related to the treatment of hazardous substances.

Another concept is that of industrial hazard, an accidental event occurring in the factory, whose risk is on the industrial site and in the vicinity of the factory, leading to the leakage of hazardous materials affecting individuals, residents and property.

We notice from this presentation the dangers of classified establishments, which can have negative effects on the environment and the urban environment, in terms of the destruction of buildings, factories, and property and threaten the lives of people living near these areas, due to hazardous waste caused by chemicals which are, in turn, caused by great industrial facilities.

The industrial danger has several causes, among which are: a – Industrial accidents; b – Industrial waste.

### 3.3. The concept of danger

Article 02 of Law 04–20 of 25–12–2004 on the prevention of major threats and the management of disasters within the framework of sustainable development stipulates:

“Every potential threat to human beings and their environment is described as a major threat to human beings and their environment, which can be caused by exceptional natural hazards and/or human activities” (Law 04–20, 2004).

According to a report on major hazards and disaster coordination, the risk was defined as: each hazard which leads to loss of life and loss of environment (all that surrounds human beings) through natural effects or various activities, therefore leading to disaster (loss of life, property, environment).

The principle of prudence, under which the lack of technology, given current scientific and technical knowledge, should not be used to delay the adoption of effective and proportionate measures to prevent the risk of serious harm to the environment at an acceptable economic cost. The danger can be defined, and according to Article 02 of The Executive Decree 06–198 of 31–05–2006, which regulates the regulation applied to establishment classified for the protection of the environment, as “an inherent property of a substance, factor or energy source, which can cause damage to persons, property and the environment”.

We conclude through these legal definitions that the risk is inherent to the urban population primarily and to the urban environment, whether it is caused naturally or artificially.

- Potential risk: It can be defined as per Article 02 of Decree 06–198 of 05–31–2006, which establishes the regulation applicable to the classified facilities for environmental protection. The potential risk is an element that characterizes the occurrence of potential harm, associated with a risk situation and is usually defined by two elements: The potential for harm; The gravity of the consequences.
- Industrial Hazard: Law 04–20 of 12–25–2004 regarding the prevention of major dangers and the management of disasters within the framework of sustainable development, defines industrial risks in Article 32: the general scheme for the prevention of industrial and energy hazards determines the set of arrangements, rules and/or procedures for the prevention and reduction of the risks of explosion, or gas and fire emissions, as well as the risks related to the treatment of materials classified as hazardous materials.

Another concept is that industrial hazards are accidental events occurring in factories, and their risks are on the industrial site and in the vicinity of the factory, leading to the leakage of hazardous materials affecting individuals, residents and property.

We notice from this presentation of the dangers of classified facilities, which may have negative effects on the environment and the urban environment, in terms of destroying buildings, factories, and property and threatening the lives of individuals who live near these areas, due to the hazardous wastes resulting from the chemical substances that are caused by the major industrial facilities.

The industrial danger has several reasons, including: a – Industrial accident; b – Industrial waste.

Ministerial Regulation R1 on the Control and Management of Industrial Hazards, including Hazardous Substances, states that an industrial accident is an emission, fire, or explosion caused by uncontrolled developments occurring during the exploitation of an industrial establishment that poses a serious human health risk within or outside the enterprise and/or for the environment; it is immediate or subsequent to the usage of one or several hazardous substances (Anwar Abd errzak, 2013).

- Risk studies: As a result of the damage that may be caused by the waste (waste, or defuse gases) classified establishment, the Algerian legislator has developed a set of texts governing said classified establishment, the most important of them being:
- How to study risk: executive Decree No. 06–198 of 31–05–2006 regulating the legislation applied to classified facilities for the protection of the environment, and specifying the methods of studying the risk arising from classified facilities; Article 12 defines the objective of the risk study. The purpose of the risk study is to identify direct or indirect risks, which endanger persons, property and the environment as a result of the institution's activity, be it internal or external.

The risk study should allow for the control of technical measures to reduce the likelihood and to mitigate accidents, as well as regulation measures for the prevention and management of accidents. The risk study shall be carried out by a group of experts or a study bureau, in accordance with Article 13 of Decree 06–198 of 31–05–2006, which regulates the legislation applicable to classified establishments for the protection of the environment, specifying the following:

The risk study shall be carried out at the expense of the project owner by study offices, expert offices or specialized consultancy offices in this field and approved by the Minister in charge of the environment, after having consulted the concerned ministers when necessary.

- Sanctions related to the classified facilities in Algeria: according to Law No. 03–10 of 19–07–2003 on the protection of the environment in the framework of sustainable development, which is clarified in Article 101, the waste is confirmed by transcripts written by judicial police officers and environmental inspectors in two copies, one of which shall be sent to the governor and the other to the prosecutor.

Environmental inspectors take the following oath: I swear by God Almighty to perform my job faithfully and sincerely, to protect the secrecy of the profession, and to ensure the implementation of the laws of the state.

As specified in Article 102, anyone who exploits a facility without obtaining a license shall suffer a one year's imprisonment sentence (1) and a fine of five hundred thousand dinars (500,000 DZD). The court may decide to prohibit the use of the facility until a license is obtained, and the court may also order the return of the premises to their original state within a period to be determined.

As for Article 103, which clarifies that a penalty of two (2) years' imprisonment and a fine of one million dinars (1,000,000 DZD) is to be imposed on anyone who exploits an establishment in contravention of a procedure that has decided to suspend its operation or close it, or after a ban has been made in implementation of Article 102 above.

According to Article 104, whoever continues to exploit a classified facility, without complying with the decision to excuse, to respect the technical requirements shall be punished with a six (6) months' imprisonment and a fine of five hundred thousand dinars (500,000 DZD).

As for Article 106, it specifies that a penalty of one year's (1) imprisonment and a fine of five hundred thousand dinars (500,000 DZD) shall be inflicted on whoever obstructs the persons charged with guarding, monitoring, or conducting expertise for the classified facilities while performing their duties.

We notice that the Algerian legislator has defined several articles explaining penalties and deterrent measures for anyone who commits any violation that affects the urban environment, population centres, and the surrounding environment, with the aim of living in the midst of a comfortable urban environment free of all kinds of pollutants produced by classified facilities.

#### 4. METHODOLOGY

The methodology of research is one of the most important reasons for the success of scientific research, so it is of great importance in the research and the researcher must grant it a large part of his work and thinking, in order to choose the methodology that suits the nature of his work on the one hand, and his specialty on the other hand, given that the subject of our research is space, we rely on the

descriptive analytical approach based on the description of the phenomenon as it is in fact, and then we analyse it, which is why we have adopted the descriptive approach to analyse the current status of the classified facilities through the case of the city of M'sila.

In the Framework methodology used to study the situation, the questionnaire (Form) was addressed and field observation and interviews with relevant bodies that are relevant to the subject of our research, namely establishment classifieds and their impact on the urban environment.

The employed research techniques were imposed by the nature of the work, as was our dependence on the following:

- a. Note: we relied on the note because it is characterized by the tangible aspects of the experience the subject of classified establishments, the relationship between individuals and how vulnerable it is. One of the advantages of the note: direct scans of the phenomenon, allows for the collection of data on nature, allows to identify the new information which the researcher had not noticed.
- b. Form: this method helps field data collection on the subject, as we form our research on most public data and assumptions about the search data.
- c. The interview: interviews were to be held with some officials (specialists in the field of study) within the Directorate for the Environment, the Directorate of Land Surveying, the Construction and Reconstruction Directorate, with the Office of the Director of classified establishments in order to clarify the information related to the subject.

The study allows us to collect certain documents, charts, and laws that will help to complete our research.

Urban planning represents a full range of social and economic measures, preventive health, structural or architectural technology, whose purpose is to create a reasonable or optimal planning structure for the city's residential community, based on ensuring the best working conditions, life, mobility and comfort for the population (Anwar Abd errzak, 2013). A case study area is the subject of the research by which the problem of the classified establishments is clarified at the level of the city of M'sila in terms of planning and location in the urban fabric.

## 5. STUDY AREA

The city of M'sila is located on the north-western side of the Shatt al-Hodna basin, where it is bordered to the north by the Hodna mountain range and to the south by the Shatt al-Hodna basin. It is an intersection point for both National Road No. 40 and National Road No. 45.

The Kosob valley passes through it, crossing the neighbourhoods in the north of the city and near the center, east of the industrial zone, and continuing its course near the Muzareer area, where we have the groundwater that feeds the city, finally reaching the Shatt al-Hodna.

The city of M'sila is the headquarter of the state, starting 1974, as it occupies a vast area estimated at 20,000 km<sup>2</sup>, and since the beginning of 1974, the city of M'sila began to know many industrial and residential projects, some of which were focused in the state headquarters, while others spanned across the most important departments, currently including 47 municipalities, and 15 sub-prefectures (Daira), starting from the administrative division of 1984 (Planning and Reconstruction Guideline, 2014).

The city of M'sila occupies a distinct geographical position, located in the heart of the Algerian country within the basin between the plateaus and the hill, where it rises 460 m above sea level, and sits on an area of 1792.6 ha, accounting for 7.72% of the total municipal area. It is a crossroads for both National Route 40, National Route 45 and The Watercourse (Wadi al-Reed), which is among the most important reasons why the city of M'sila has been established and developed over different stages of time, occupied by about 214,661 people according to the 2014 census, i.e. 925 inhabitants/km<sup>2</sup>.

### 5.1. Reasons for choosing M'sila city

M'sila city includes a group of urban units which were formed in different historical stages. It is also considered the “capital of the brood”, which saw the expansion and extension of the urban fabric in different and varying directions on the one hand, to other forms of urban convergence in terms of urban style, with classified establishments displayed in various layouts and environmental surroundings.

Some of the reasons that led to the choice of the city of M'Sila are the following:

- The fact that M'sila city contains the largest proportion – 842% – of the seed plants (all varieties), compared to other municipalities.
- We selected a neighbourhood of 700 homes for having the largest number of classified establishments across all neighbourhoods of the city.
- We have selected this type of classified activities because it is important, as we have noted the proliferation of these facilities quickly in the middle of the urban environment of the city and in an irregular manner, which has led us to try and find out if these classified establishments taking into account the management of environmental and urban planning of the city.

### 5.2. M'sila city location

The city of M'sila is one of the inner Algerian cities located within the following geographical coordinates: between two viewing circles: '35.48°, '35.67° North of the Equator. Between linear length: '4.57°, '4.48° east of the Greenwich line the North-South link is the seat of the state. The city is characterized by economic diversification. Municipality of M'sila: estimated Area B: (232 km<sup>2</sup>) inhabited by 214,661 inhabitants, with a population density of 925 inhabitants according to the Municipal Bureau of Statistics, 2014, an estimated area of study field Urban center of the City B (50.01 km<sup>2</sup>) (Fig. 1) (15) (Salim, Hadjab, 2019).

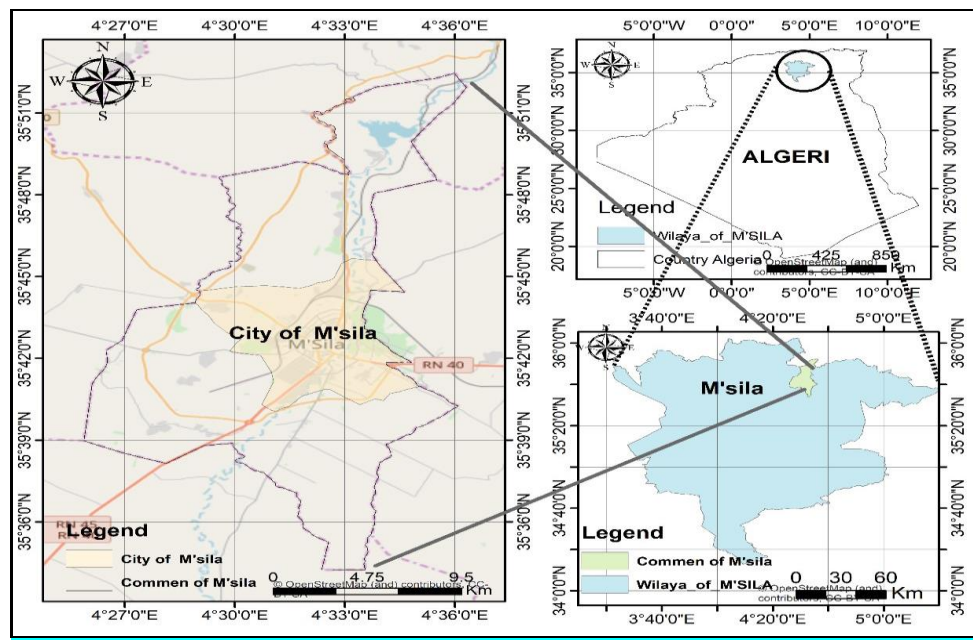


Fig. 1 – The location of the Study-Area: City of M'sila (Dehimi & Hadjab, a 2019, p. 194–3).



## 6. RESULTS AND DISCUSSIONS

The findings of the study on the impact of classified facilities on the urban environment and the city's population centers can be summarized as follows:

### 6.1. The development of classified establishments in M'sila

According to the statistics compiled by the Directorate for the Environment, the development of the classified facilities in M'sila has been characterized by different stages, as shown in Table 1.

Table 1

Number of classified establishments in M'sila The Directorate  
for the Environment in M'sila (2020 stats).

No. /year	1977	1987	1997	2020
<i>Classified establishments city of M'sila</i>	38	84	370	980
<i>Percentage</i>	2.58	5.71	25.13	66.58

Table 1 shows that the development of classified facilities (all categories) in M'sila went through different periods. There is a growth of classified facilities at each stage. The number of facilities in 1977 was estimated at 38 (2.58%), and in 1987 there were 84 (5.71%).

In 1997, the number reached 370 (25.13%). In 2020, the number of facilities was estimated at 980 (i.e. 66.58%), from the study of the development of population growth and the development of classified facilities of M'sila, we conclude:

These facilities are rapidly spreading on the urban level of the city, but they have a negative impact on the urban environment through pollution brought by them on the environment and on the health of the population, especially those living near the classified facilities, such as: blacksmithing, carpentry, car wash and lubrication, and mechanical repair of cars. The urbanization of the city has a great impact on the emergence of classified facilities where urban expansion is part of the urban environment and has several concepts (Figs. 2, 3). "Urban sprawl is a planned or unplanned outward expansion of urban areas that usually creates low-density residential patterns" (Maryamsadat, Amrah, Houshmand, 2016).



Figs. 2, 3 – Car washing and lubrication facility and wood carpentry facility,  
two class III classified establishments licensed by the Municipal People's Council (Saci, Young 2019).

There are several complaints by the people close to these types of activities, especially wood carpentry and blacksmithing. In addition, there is visual pollution where some facilities' owners exploit the sidewalk so as to present their works outside the facility.

There is also possible danger on passers-by and children who live near these activities, including mechanical repairs, blacksmithing, wood carpentry and aluminium joinery. Therefore, it is necessary to have a periodic check by the concerned bodies (the Follow-up Committee of the classified establishments) in order to not let the owners of these types of activities break the law.

Table 2

The number of classified establishments (for all items) at the level of the city sectors  
The Directorate for the Environment in M'sila (2020 stats).

Sectors	Sector 1	Sector 2	Sector 3	Sector 4	Sector 5	Sector 6	Sector 7
No.	120	190	69	175	310	67	47
Percentage	12.24	19.39	7.04	17.86	31.63	6.84	5.00

From the preliminary reading of Table 2, we notice that the spread of classified facilities across the sectors is irregular. The number of classified facilities located in Sector 5 reaches 310, the largest percentage estimated at 31.63%, followed by Sector 2 and Sector 4 with values such as 190 and 175, respectively, that is, about 19.39% and 17.86%, followed by Sector 1 with 120 classified facilities (12.24%), while the number of classified facilities located in the third sector does not exceed 69.

Sectors consist of a group of neighbourhoods, but this does not necessarily reflect the disparity in the type of activity, and therefore how the designated establishments and the urban environment mutual impact each other (Fig. 4).

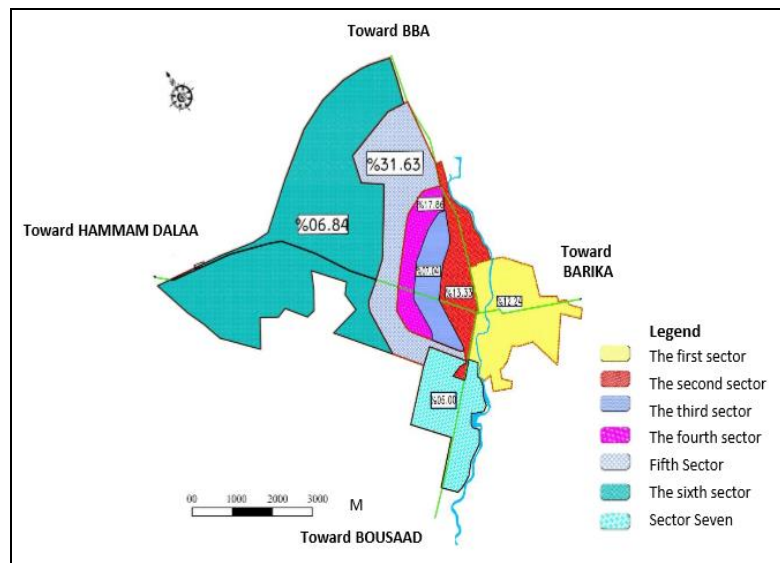


Fig. 4 – The number of classified establishments (for all items) at city sector level.  
The Directorate for the Environment in M'sila (Saci, Young, 2020).

## 6.2. Types of classified facilities in M'sila

The Executive Decree 1986–06 of 05–31–2006 governing the regulation applied to the classified facilities for environmental protection, and according to Article 03 thereof, classified facilities into two classes: facilities subject to licensing, and facilities subject to authorization.

- First class facilities are subject to a ministerial license, such as: oil pumping facility, cement industry facility.
- Second class facilities are subject to state licensing, such as: yogurt, flour mills, poultry farming.
- Third-class facilities are subject to the authorization of the Chairman of the Municipal People's Council, such as: technical blacksmithing facilities, mechanical repair shops, aluminium carpentry, wood carpentry, car washes.
- Forth class facilities are subject to municipal permits, such as: bakeries, bathrooms, sewing and tailoring workshops, making sweets and refreshments.

The focus was on some establishments classified as Class III, because of their presence within the urban perimeter of the city, because of the complaints, harassment and inconvenience towards residents who have their homes close by, because of the illegal abuses by the craftsman amid the urban landscape, such as: wood carpentry is classified as a third-class facility under the authorization of the President of the Municipal People's Assembly (Figs. 5, 6). We can see from picture 1 that the craftsman uses the sidewalk to display his work and put devices there illegally, which impedes the free movement of pedestrians.



Figs. 5, 6 – The first-class cement factory is licensed by the ministry located in the city of M'sila, threatening health and the environment because of its proximity to some urban communities, which affects the health of the population (Saci, Young 2019).



Figs. 7, 8 – The 7<sup>th</sup> figure represents the mechanical repair shop for vehicles under municipal license of the third class, and the 8<sup>th</sup> figure represents a technical blacksmith facility subject to a country's third category license; the two facilities pose a threat to the urban environment (Saci, Young, 2019).

The classification of this workshop is based on the energy and size of electrical machinery, and the greater the area and volume of electrical power of the machines within the classified establishments, the more the classification changes according to the degree of risk to the population, to property, and to the Environment.

The facilities in Figures 7 and 8, showing a technical blacksmithing facility, and a car washing and lubricating facility, were classified as third-class under the license of the President of the Municipal People's Council. The classification criterion is the resolution of the area (m<sup>2</sup>) and the more the classification changes according to the law on the designated establishments, the higher the degree of risk.

A technical blacksmith's facility is a class III designated facility under the license of the President of the Municipal People's Council, and we notice in the picture that the craftsman uses the pavement and the road in the development of appliances and displays of works, which has hindered the movement of pedestrians (pedestrian movement).

We conclude from the numerical study of classified facilities that there is a large disparity in the number and type of activities practiced by artisans in urban communities, particularly residential neighbourhoods.

- The spread of these facilities in a spontaneous manner, the lack of balance in their distribution and place, as well as the lack of a clear reading of this type of activity. We notice communication (direct friction between the inhabitants of the neighbourhoods and the various designated facilities), which makes us wonder about the impact on the lives of the people concerned.
- There is a large disparity in the type of activities for artisans in residential neighbourhoods, reflecting the absence of a law that provides for and clarifies their presence in the city.
- There is no continuous monitoring by officials and committees that have to do with the protection of the urban environment and public health, and not to offend the aesthetic character of the city, with no pollutants (noise, pollution, dirt etc.) that disturb the city's residents, especially those who live near the unfolding activity of classified facilities.
- The population of designated facilities has been affected by the noise and dangers caused by the latter, particularly children and bystanders who live near this type of activity.

Legal violations by the exploiter (craftsman) of the classified facility are at the level of the urban environment and the urban perimeter. Residents are disturbed by the pollutants and inconveniences caused by the classified facilities to the urban environment.

Giving priority to complaints lodged by residents due to environmental problems that are made by the (craftsman) exploiter of classified facilities at the level of urban agglomerations, and in particular, individual residences that suffer from several legal violations in the urban environment of the city. The exploitation of the sidewalk in illegal ways to display works and place devices, which hinders the movement of pedestrians.

The exploitation of the sidewalk in illegal ways to display works and place devices, which hinders the movement of pedestrians. Ensuring the stability of classified establishments by classifying them according to the list of executive decree n° 07–144 of 19/05/2007, which classifies these establishments into four categories and specifies the scope of application, the content, and the ways of ratification of the study and summary impact on the environment, to make sure the exploiter (craftsman) respects the classification criteria without breaking the law.

The lack of continuous and permanent monitoring by the concerned bodies (the monitoring committee). The spread of classified facilities at the city level (neighbourhoods) in a chaotic and irregular manner indicates that there is no scheme showing the presence of classified facilities in terms of location, number and activity.

Developing the environmental awareness of the local community, this appears through their behaviours, various practices and daily dealings, such as protecting the urban environment from the various types of pollution caused by classified facilities.

Environmental education and strengthening environmental awareness because any legal or administrative reforms will not be of benefit unless you find a community and population base waiting for them to support and interact with them in protecting the city and the urban environment from pollutants resulting from classified facilities that cause a range of environmental hazards.

Studying the environmental impact of any project (classified facility) before approval by the official authorities, to spare us in the future all the environmental problems that may result from it.

The existence of facilities classified from Class IV, Class III and Class II, the latter, according to the Classified Establishments Law 06–198 that controls the regulation applicable to institutions classified for environmental protection, subject to state licensing, must be outside the urban grid of the city because of its degree of risk.

Poor management and planning of the classified facilities within the urban grid have led residents to submit complaints to the concerned bodies, related to the protection of the urban environment, due to the inconvenience, harassment and pollution caused by it, especially the mechanical repair facility for cars, wood carpentry, car washing and lubrication, technical blacksmithing. Planning and design must take into account all safety and security conditions in order to protect the citizens and the population in the event of an explosion or fire accident so that there are no human or material losses.

The spread of these facilities in a spontaneous manner, the lack of balance in their distribution and location, and also the lack of a clear reading of this type of activity, where we observe communication (direct contact between neighbourhood residents and the various classified facilities), makes one wonder about the impact it may have on the lives of the concerned residents.

Reducing some classified facilities in the urban tissue by focusing on activities that offend society and annoy the inhabitants, such as: aluminium carpentry facility, wood carpentry, car mechanical repair, technical blacksmithing, car washing and lubrication, turning and straightening.

Changing the location (location) of classified facilities, and we especially mention those that cause inconvenience to the residents of the city outside the urban perimeter and the population centers of the city, and we suggest that the latter be in the industrial zone that includes all craftsmen activities such as (wood carpentry workshop, mechanical repair of cars, aluminium carpentry, turning and straightening, technical blacksmithing, car wash and lubrication, wire wrapping), in order to preserve the urban environment and the urban surroundings of the city. In addition to not distorting the urban façades of some residential neighbourhoods with the presence of this type of activities in order to reach a clean city.

In terms of the type of activity, this study found that most of the classified facilities are widespread in neighbourhoods of an individual character, especially this type of activity (mechanical repair of cars, washing and lubricating cars, technical blacksmithing, aluminium carpentry, coil wrapping, wood carpentry, turning and straightening).

However, classified facilities are fewer in neighbourhoods of a collective nature such as: bakeries, cleaners, making sweets and refreshments, sewing and detailing clothes. The lack of a clear reading in the positioning and presence of the classified facilities is seen in the urban tissue of the city.

There is a wide variation in the type of activities for craftsmen in the residential neighbourhoods, which reflects the absence of a law stipulating and clarifying the percentage of their presence in the city. Residents are disturbed by the presence of some classified facilities near their homes, due to the inconveniences they cause, such as: noise, danger, dirt, and smell.

As we noted previously from the study of classified facilities, there is a big discrepancy between the number of classified facilities in various sectors. We also notice here the disparity of these establishments in terms of type, activity and number, as well as the lack of continuous monitoring by officials and committees related to the protection of the urban environment, which is represented by offending the aesthetic character of the city, and causing the emission of pollutants (noise, disturbance, pollution, dirt, ...) that disturb the city's residents, especially those who live near the classified facility's activity.

Restricting the legal accommodation for environmental crimes and raising the level of penalties assigned to them in proportion to the seriousness of their effects.

These results confirm the hypothesis: the intersection between residential communities and classified facilities within the urban environment results in many environmental dangers because of poor urban governance. Therefore, it is necessary to avoid the presence of classified facilities in the city centre, and we propose establishing them at the outside of the urban areas, i.e. in the industrial zone.

## 7. CONCLUSIONS

Throughout our study of the classified facilities and their impact on the urban environment in Algeria, we noticed that these facilities are spread among the residential areas in a random and anarchic manner. That is, they are not subject to urban laws, and they are found in all neighbourhoods in different types and distribution. It is also worth noting that the need for security has become a necessity of absolute priority in the design, construction or exploitation of any public facility, whether commercial or industrial.

Therefore, proper scientific planning for the prevention of the dangers of classified establishments and the methods of confronting them are among the most important foundations of any country's policies. By doing this, we can assess and identify environmental problems and their dangers, and we can make recommendations and measures to prevent them or to minimize their occurrences.

Hence, the technical specifications to prevent the dangers of the classified establishments when designing and constructing residential housing and public, commercial and industrial institutions are for the safety requirements, which include a set of the executive measures. So, we should all cooperate towards what serves the common good. In the 1970s and 1980s, this type of classified establishments was not of great importance. There were no clear laws on how to deal with classified establishments, but we have noticed in our study of the laws related to these establishments began to recently receive great attention from the authorities concerned, with the issuance of several laws providing for the management of enterprises classified in terms of license and how to establish them, such as Executive Decree 06-198 of 31-05-2006, which regulates the legislation applicable to institutions classified as under environmental protection. Decree No. 07-145 of 19-05-2007 specifies how to study the impact on the environment, by mentioning the scope of application, the content and the ways of validating the study and of summarizing the impact on the environment. Through our study of the classified establishments and their impact on the urban environment, we have noticed that the latter spread among the residential neighbourhoods in a random and chaotic manner, that is, it is not subject to urban controls, so that we find it spread and distributed in all residential neighbourhoods in a different way, in terms of type, number and distribution.

It is also worth noting that the human need for security and safety has become a necessity, which has imposed absolute priority, when preparing the design and construction or the exploitation of any public enterprise, whether commercial or industrial. For this reason, sound scientific planning to protect against the dangers of classified establishments and methods of combating them is one of the most important foundations on which the policy of any country should be based. In order to assess and codify the occurrence of hazards and identify their sources with the development of recommendations and measures to prevent their occurrence and ways to address them, to mitigate their effects in the event of occurrence and to reduce recurrence, therefore, the technical specifications for the prevention of hazards classified establishments, which must be adhered to in the design and construction of residential buildings and public, commercial and industrial institutions is the safety requirements of those institutions, which include a set of operational measures in protection magazines, so we should all cooperate in the public interest.

In this context, and given the importance of the urban sector and its role in the development of service projects, in order to obtain a comfortable and safe urban environment of pollutants produced by classified establishments, which respond to human requirements within the urban environment, The owners of classified establishments (craftsmen) must abide by the laws to protect the environment and the urban fabric of the city.

Because of the economic and service benefits that classified establishments provide to society and the population, they have significant consequences for the urban fabric of the city, so these environmental problems must be avoided by establishing regular planning and through the management of these facilities and the study of the social, cultural and environmental dimension.

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