

URBAN UPGRADING SCENARIOS, AN APPROACH TO URBAN DEVELOPMENT AND THE WELL-BEING OF THE POPULATION

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Abstract: Cities are witnessing urban inequality in developing countries, and this is reflected in inadequate urban planning, because these spatial and socio-economic disparities translate into spatial systems, an unsustainable urban form, and a low quality of life (QOL). The study tried to propose an approach to urban development, based on the concept of standard of living, where we worked to evaluate the quality of urban life based on indicators identified using Delphi method. The map of the QOL of the city was extracted before upgrading in the environment systems geographical information. During the results of this map, we worked to identify weaknesses in the distribution of evaluation indicators and then worked to improve their distribution and increase the numerical shortage in them spatially according to the needs of the population in the near term, then we reassessed the QOL after the upgrading process. The results obtained showed a significant development of the study area by a large percentage of the study area as a difference between the two phases, the scenario of development in the level of life according to the criteria adopted in our research with population participation proved a qualitative shift in the level of well-being of the local population spatially. A model has been developed as a comprehensive tool for assessing urban areas in the pursuit of the sustainability of neighborhoods in developing countries.

Keywords: upgrading, population well-being, Delphi method, GIS, urban areas, M'sila

1 INTRODUCTION

Most Algerian cities have experienced the spread and aggravation of many social and urban problems that have become a concern for researchers, and the population alike, so it is not surprising that this crisis has led to further urban deterioration, which has made the city falter in its urban crisis, reflecting this and the failure of public authorities, the solutions provided are characterized by random conditions, without subjecting them to real and effective scientific studies, and to address them to improve the overall framework of quality of life, health and well-being (Newman,

1999; Saitluanga, 2014), both individually and socially (Theofilou, 2013; Moroke, Carel and Ilse, 2020).

Cities are in a race for the quality of life (QOL) they offer residents, and residents are ready to move to places that provide better life for their inhabitants across the borders of countries and continents (Massam, 2002; Rinner, 2007). The QOL has different aspects, such as urban environment, social facilities, or commercial and economic establishment, and the necessary servants from an objective point of view (Kwiatkowska-Sołtys and Mainet, 2014). Geographers try to understand the complex phrase and the need to combine both approaches mentioned. Initial works on the QOL, both from a psychological and environmental point of view, emerged in the 1960s, and others were introduced in the 1970s by geographers studying spatial differences in social indicators, but had roots in economic measurements during the 18th, 19th and early 20th centuries (Mostafa, 2012). Life-type studies are multidisciplinary knowledge field. It is conducted by scientists from different disciplines who assess life conditions based on the information and data available, whether objective or subjective (Domin, Kwiatkowski and Chodkowska-Miszczuk, 2010).

One of the difficulties we face is the lack of an agreed definition of QOL measurement, a multifaceted problem that has attracted considerable interest in urban geography (Massam, 2002), each according to his specialty and his point of view. In recent years, indicators such as cultural and artistic workforce, diversity of human labor, and housing diversity have been taken into account (Florida et al., 2002). Among the studies examined by QOL was a study by Kladiwo and Halás (2012) that used a set of 30 variables to express QOL. The focus was on social, commercial and environmental indicators, using multivariate analysis. The study concluded that the type of housing, the attractiveness of the environment, and the availability of services are crucial indicators in the type of living conditions. From our point of view, involving the population in the assessment of their environment serves research, but the use of spatial programs to locate magazines spatially.

The second study is used by GEOVIS principles (Rinner, 2007) in conjunction with multi-standard evaluation methods to support spatial decisions. AHP is used to calculate complex measures of urban life types, with social, economic and demographic indicators of the neighborhoods. From our point of view, the variables used in the assessment do not include the local population. In his interview with experts, the researcher also focused on applying (GEOVIS) only because this method is not transparent and there is a lack of clarity of movement between AHP and determining areas of quality in life. With the multiplicity of QOL assessment methods in our study, Delphi will integrate the way Delphi to choose QOL variants with the locals involved in its assessment and the method of AHP gun for them, extracting the weight of each variable and finally translating all the results into a map.

The main objective of the study is to upgrade residential neighborhoods for the well-being of the population

1. Introducing a model to measure the QOL in the city, as a method of upgrading residential neighborhoods, using unconventional techniques in decision-making.

2. The research aims through comparison and analysis to evaluate the QOL in residential neighborhoods, in order to know the strengths and weaknesses of the city, in order to provide an effective scientific contribution to reach the foundations of new urban planning in line with the requirements of the individual and society.

2 URBAN QUALITY LITERATURE REVIEW

The living ability and QOL in urban areas appear as important indicators in the urban development of settlements. Many scientific researches and institutional studies conducted to date on these topics build principles on increasing the quality of urban life in urban areas. In the 1970s, during the first studies on urban QOL in the United States and in England, the definition of QOL was the main theme (Wish, 1986), and in due course, studies began to focus on measuring urban QOL, targeting and subjective indicators (Stimson et al., 1999; McCrea, Shyy and Stimson, 2006). These assessments include emotional reactions to life events, behavior, a sense of fulfillment and satisfaction, work satisfaction and personal relationships (Diener et al., 1999). In literature, the term qualitative life is often referred to as well-being. The Webster Dictionary defines the standard of living as “the suitability of a human living” (Okulicz-Kozaryn, 2013). “Living” means QOL, standard of living or the general well-being of the population in some areas such as the city. It is closely related to the concept of human well-being in this research we suggest a way to evaluate and develop. People can't be happy in a city without good transportation, schools and hospitals. While these are necessary, they are not enough. There are many characteristics that make the city worthwhile: education, health and safety, housing, mobility, but also less obvious things like values: tolerance, trust and self-expression (Florida, 2008). There is evidence (Senlier, Reyhan and Diğdem Aktaş, 2009) that QOL is linked to perceptions, feelings and subjective values, or even that QOL is perceptions and feelings, and there seems to be a consensus among sociologists that indicators of the personal QOL increase our understanding of the widely defined evolution this consensus has evolved at the level Qatari (Diener and Mark, 1997). However, amid the proliferation of city classifications that focus on objective qualities, there is little debate about the personal aspect of the QOL in cities. Again, it's not the objective quality of the infrastructure but how people think it is important (Senlier, Reyhan and Diğdem Aktaş, 2009). For the quality of urban life, broad interpretations where they are interpreted as the satisfaction a person receives from the human and material circumstances surrounding, conditions that depend on scale and can affect the behavior of individuals and groups (Mulligan, Carruthers and Cahill, 2004). Its definition more accurately reflects the QOL.

3 MEASURING AND EVALUATING THE QUALITY OF URBAN LIFE

In order to understand the quality of urban life in the city (Dehimi and Hadjab, 2019), we need to measure the conditions in this place using sets of indicators. Furthermore (Ley, 1996), we need to monitor changes in those circumstances over time in order to assess or determine whether these circumstances have changed or how. If these changes change, we need to determine whether they have improved or deteriorated by a measure. This effort may include assessing the impact of various public or private interventions that seek to improve conditions. We know that different people may have different perceptions after making different judgments about things that affect the privacy of their urban lives, including the specifics of their urban environment. In order to conduct a thorough investigation into those aspects of the urban framework, we need to use model frameworks and data collection to activate those frameworks in a particular context. It includes sections that provide a general overview of the evolution and application of theoretical frameworks and methodologies used to investigate urban life types (Marans and Stimson, 2011). As discussed (An-delman et al., 1998), investigations are often conducted through two approaches:

1. In the objective approach is usually limited to the analysis and reporting of secondary data usually collecting data in different geographic or spatial metrics available mainly from official government data sets, including census. This is an approach that is often associated with social research indicators.
2. In the subjective approach that aims specifically to collect basic data in the classification or individual level using social survey methods where the focus is on people's behaviors and assessments or assessments from aspects of the national country in general self.

In the subjective approach that aims specifically to collect basic data in the classification or individual level using social survey methods where the focus is on people's behaviors and assessments or assessments from aspects of the national country in general self (Dissart and Deller, 2000).

4 STUDY METHODOLOGY AND TOOLS USED

Through this research, several systematic approaches have been applied for the development of deprived urban areas.

In this study, we proposed the development of life-quality indicators to propose an approach to urban development for cities where Delphi applies a multi-standard analytical approach to decision-making using geographic analysis systems. The research focused on involving local experts in the research stages in order to develop honest criteria that reflect the aspirations of the individual and society and paint a picture of his real life using modern techniques for hierarchical analysis in comparison between the main and sub-factors, and then translate the results into GIS. The

map identifies and evaluates the type of life in the city according to the criteria set by the experts and the view of the population.

In this study, we proposed the development of quality-of-life indicators in order to propose an approach to urban development of cities in which the Delphi method was applied with a multi-standard analysis approach to decision-making using GIS. The focus of the research was to involve local experts in the research stages in order to develop honest criteria that reflect the aspirations of the individual and society and paint a picture of their real life using modern techniques of hierarchical analysis in comparison between the main and subfactors, and then translate the results in A program from GIS program (Dai, 2016), to come up with a map that identifies and evaluates the QOL in the city according to the criteria set by experts and the view of the population analysts.

The majority of the problems associated with the QOL assessment require methodologies that can be integrated into GIS (Dai, 2016), powerful tools designed to manage, transform, represent and spatial data, supported by GIS, allowing joint use to take advantage of the enormous potential of management, analysis and spatiality. The city quality modeling of life data, GIS techniques and actions has taken an important decision-making position which means it provides unique capabilities in the arena and analyzes a variety of spatial data (Drobne and Lisec, 2009).

On the other hand, the implementation of effective actions aimed at analyzing preferences and assessments expressed by experts and local population, can implement various multi-species actions in the GIS environment, from map layers, with the support of AHP, is considered the most obvious and most used (Vizzari, 2011).

The ultimate goal of GIS is to provide support for spatial decisions, and multi-standard decision-making procedures determine the relationship between “input maps” and “output maps” (Drobne and Lisec, 2009), through the results obtained we analyze all previous criteria in some detail and identify field needs for urban areas.

The following is a chart summarizing the methodology used in the research shown in Figure 1.

4.1 Selection of evaluation criteria

In order to improve residential neighborhoods, we urgently need to choose evaluation criteria in order to identify and improve deficiencies.

4.1.1 Delphi Method

Delphi's method as an organized communication technology, “developed a systematic and interactive (Sackman, 1974) forecast method based on a panel of experts” (Dalkey and Helmer, 1963) to make decision-making in an interactive way based on the term “collective intelligence of experts” (Rowe and Wright, 2001).

A group of experts (Dehimi and Hadjab, 2019) from different disciplines (environment, urbanization, economics, sociology) including university professors, engineers in private and public companies, associations, decisionmakers in public and private institutions, active in social fields, this is to establish different and varied criteria based on the majority opinion (Allen and Seaman, 2007). After that, six vari-

ables (health, public services, education, environment, culture and entertainment, security and protection) were established in the final experts proposal field of service for all variables to be measured spatially from three areas for each indicator benefiting from the service, average, the benefit, not fully utilized (Dehimi and Hadjab, 2019).

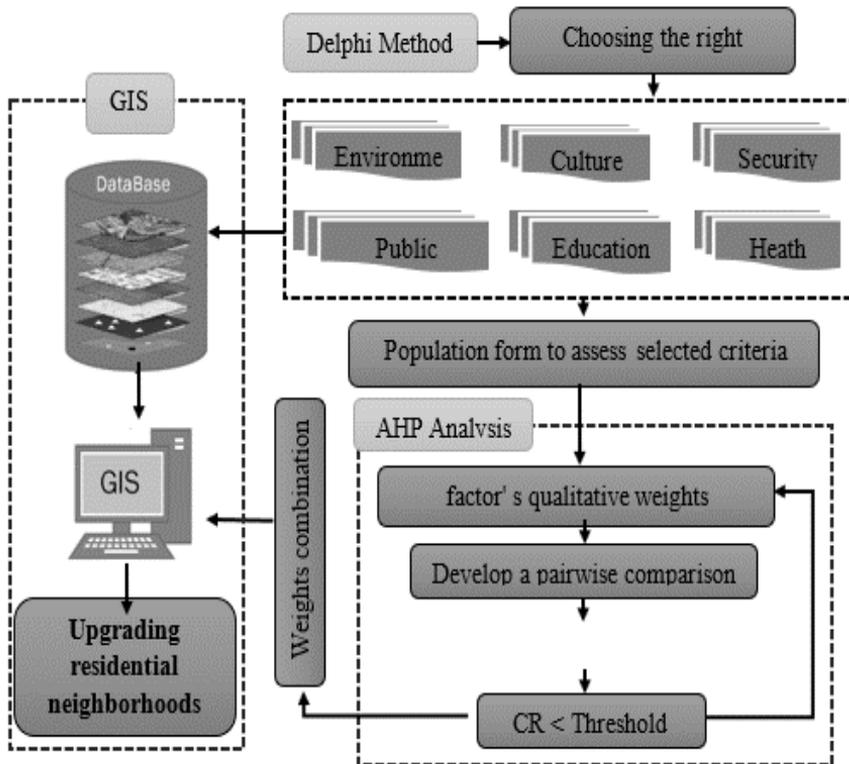


Figure 1 Analysis procedure followed for this research. Source: Dehimi and Hadjab (2019)

The degree of preference between the various main and sub-criteria was also examined by population opinion using the Thomas Saaty scale see Table 1 to compare variables and the majority of the population's opinion was taken in the AHP comparison.

4.1.2 Expert selection criteria

Although Delphi technology does not require a large sample of individuals, the selection of the group of experts, and the guarantee of their participation, emerges as another dilemma, as it requires a lot of attention, as long as it results in the sincerity

of the study data, which is not without complexity, and may go through several stages (Okoli and Pawlowski, 2004).

Among the criteria to be taken into account in the researcher's selection process are:

1. **Degree:** The higher the scientific qualification of the expert masters, the more they enrich the study with constructive solutions and ideas that enrich the research in question.
2. **Experience:** It is an important factor in enriching the study in question and discussion and the more experienced the expert in the field of study specialization, the more effective and objective the results are given his professional achievements in his field of specialization.
3. **Employer:** Preferably diversified in the employer to which the study members are experts.
4. **Intellectual and ideological diversity of experts:** This is essentially useful in Delphi's policy method because it does not look at unanimity but seeks multiple alternatives in the subject under consideration by experts.
5. **Age:** Has an important role in enriching the Delphi-based study, the more participation of different age groups, the more realistic and objective the results of the study.

In our research, four stages were reached with a group of experts from different disciplines (environment, urbanization, economics, sociology), to develop different and varied criteria based on majority opinion.

Estimated number: 30 experts and the majority of the questions submitted to the experts revolved around what are the proposed variables for assessing the QOL in The City of M'sila? How can it be measured? With each stage, the expert sit-down scans are re-evaluated. Then, six variables (health, public services, education, environment, culture and entertainment, security and protection) were finally established.

In the second phase after collecting the variables, the form was completed and addressed to the randomly selected residents of the city and answered in a timely manner. They were given 385 closed questionnaires to assess the QOL in the city according to the factors mentioned, and 370 questionnaires were retrieved and lost 15 questionnaires or returned white.

4.2 Study area

The city of M'sila (Figure 2) is one of Algeria's inner cities and is located within the following geographical coordinates: between two viewing circles: '35.48°, and '35.67° north of the equator. Between two long lines: '4.57°, and '4.48° east of the Greenwich line, a north-south-south link is the seat of the state. The city is economically diverse. The municipality of M'sila. Estimated area is 232 km², occupied by 214,661 inhabitants, population density capacity at level of 925 population according to the Municipal Statistics Office 2014 (Statistics, 2014) and the area of the study area surrounding the urban center is estimated at 50.01 km².

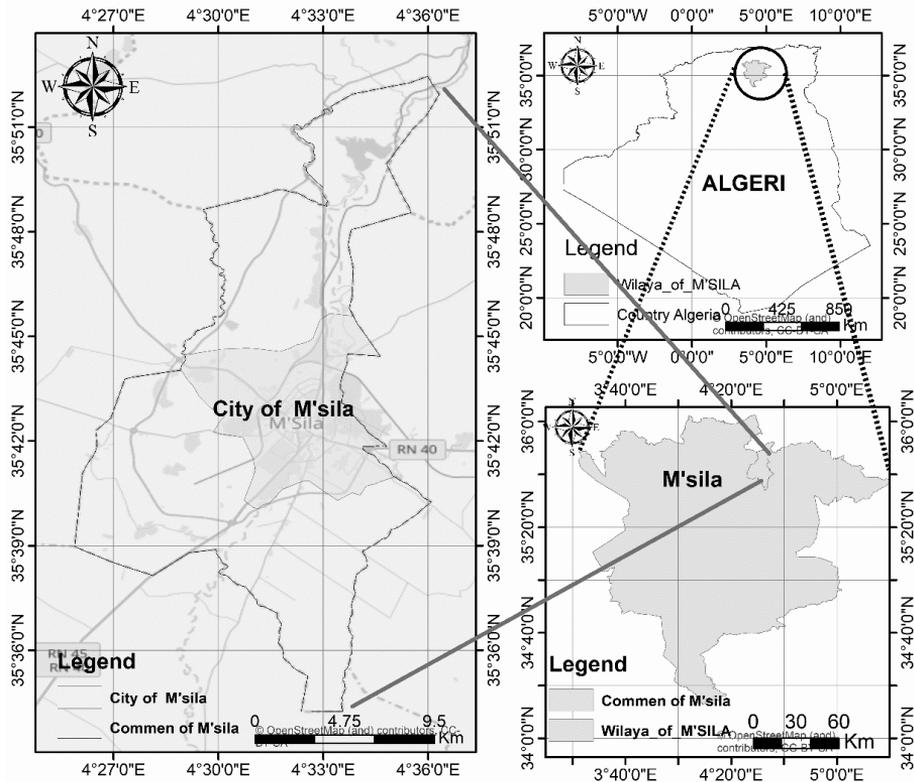


Figure 2 Location of the study area city of M'sila. Source: Dehimi and Hadjab (2019)

4.3 Factors assessing the QOL in the city

As mentioned earlier, criteria have been identified using Delphi's quality assessment method by applying a multi-standard analysis approach to decision-making using AHP (Kamali et al., 2017). After collecting the geospatial data of each of the six variables, then performed using spatial analysis: distance analysis of Euclidean Distance (Raghunath, 2006), and then reclassifying by pre-set distances (Yalew et al. 2016). All maps are displayed in Figure 3.

Note from the maps above that the study area is saturated with educational services, but for the natural environment, the city does not have green spaces except for some fields for trees in the east for a standard of health, cultural and entertainment. All services are concentrated in the city center and few services with her limbs.

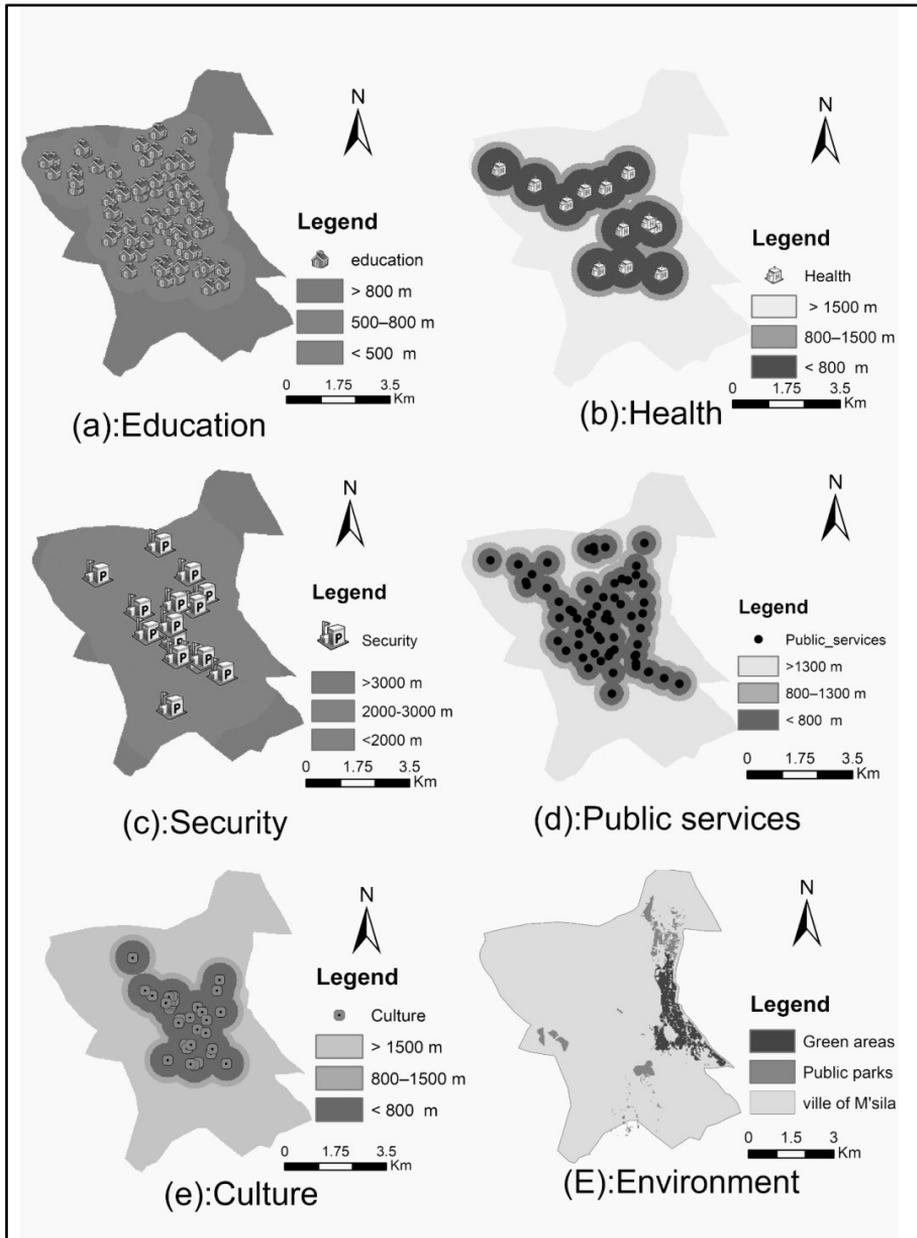


Figure 3 Factors Studied in The Analysis of QOL in The City of M'sila, Phase I.
Source: Dehimi and Hadjab (2019)

4.4 Multi-criteria analysis of decision-making

4.4.1 Analytic hierarchy process (AHP)

In the 1980s, Thomas Saaty developed the AHP process method (Dadras et al., 2014). This procedure paves the way for the inclusion of provisions on intangible quality standards alongside concrete quantitative standards (Badri, 2001).

It is a quantitative method of evaluating and arranging alternatives relative to the target (Cheah et al., 2018). Thomas defined it in 1980 as “an integrated framework that combines objective and subjective criteria”, based on marital comparisons on a relative scale (Saaty, 1980; Chen, Gang and Chenhua, 2018). The AHP process is a powerful and flexible versatile technology that formulates the problem through a pyramid structure (Saaty, 1980). It is an effective method of extracting user preferences (Saaty, 1980). It helps simplify the decision problem (Rinner, 2007) and combines qualitative and quantitative aspects of the resolution and provides a strong and simple way of weighting selection criteria, thereby reducing bias in decision-making (Ma et al., 2005; Vizzari, 2011). It describes an interactive implementation focused on the map to support spatial decision-making (Rinner, 2007). At the end of the process the weights are produced for both the main and sub-criteria where the sum of the main criteria and the sum of the sub-criteria where the sub-criteria share their weight from their main criteria where the sum of the sub-criteria for each major criterion is the weight of the main criterion itself.

4.4.2 The AHP process

After the process of creating the geographical database of all factors and conducting spatial analysis of it comes the role of serial hierarchical analysis to extract weights both major and secondary variables and summarizes the process in the following steps.

4.4.3 Analysis

A complex problem decomposes in the hierarchy of interrelated decision elements (Pawattana and Tripathi, 2008). A hierarchical structure was created for the thread and sequence of all decision elements in the top-down hierarchy (Pawattana and Tripathi, 2008). The global goal is placed at the top of the hierarchy. The lower level of the hierarchy consists of more detailed elements, which are linked to the criteria at the next top level (Saaty, 1990). The pyramidal structure of this study is displayed in Figure 1.

4.4.4 Setting priorities

After the creation of the hierarchy, the relative importance of all the elements of the resolution was captured and detected by binary comparisons, which are used to create a matrix ratio. The binary comparisons between the main and sub criteria were determined within the same hierarchical level (Boulomytis, Zuffo and Imteaz, 2017). The digital scale was used as proposed by Ouma and Ryutaro (2014). Saaty approach, ranging from 1 to 9 (Duc, 2006), is reflected in the couple's comparison matrix (Saaty, 2008). The results of the form were based on a comparison between

the main and sub-criteria, to give greater credibility and impartiality to the process in the decision on trade-offs (Table 1).

Table 1 Priority Scale by Thomas

Preference Level Numeric	Value
Equal preference	1
Medium or moderate preference	3
Strong preference	5
Very strong preference	7
Absolute preference	9
Average values between the above values	2,4,6,8

Source: Islam et al. (2018)

Survey scores have been applied to each of these elements with the degree of importance you give in arrays that will be translated into weights (Hosseinali, 2008). Double comparisons are made between the main criteria and a pair of subpairs is made between the same level (Al-shabeeb, 2016) and weights are extracted (Figure 4 and 5).

The CR = 0.05 consistency index value was less than 0.1 Saaty values (Shokati and Feizizadeh, 2018) at the first AHP hierarchy, which means that weight distribution between factors is acceptable and shows good consistency in governance (Lai et al., 2011). The program has been used (Expert Choice) in Operation (AHP) (Ishizaka, 2009).

Multi-Criteria spatial analysis requires both data on the values of the criterion and its geographical location. In the GIS-based spatial decision-making process, GIS provides access, storage, retrieval, processing, and data analysis information that can support decisions, and in addition, the use of the information system the geography of the system provides spatial data models, a means of entering, viewing spatial data, and additional spatial analysis tools. For serial hierarchy analysis, the results are summarized in AHP extracts (Figure 4 and 5).

With regard to the results of the trade-off between the main criteria according to the opinion of the population using AHP, it turns out that the city's residents prefer the availability of health care services by 27.3%, and in the availability of natural green areas for space and recreation by 26.1%, the solution of security and protection in the third place in terms of priority. The residents believe that security is one of the basics of QOL in the city, the city is not safe to provide QOL for its residents and took 15.10% of the Operation AHP, in fourth place came educational services with 13.50% of operation AHP, in fifth place came public services with 9.50% of the Operation AHP and in sixth place culture and entertainment came in with 8.40% of The AHP process (Figure 5).

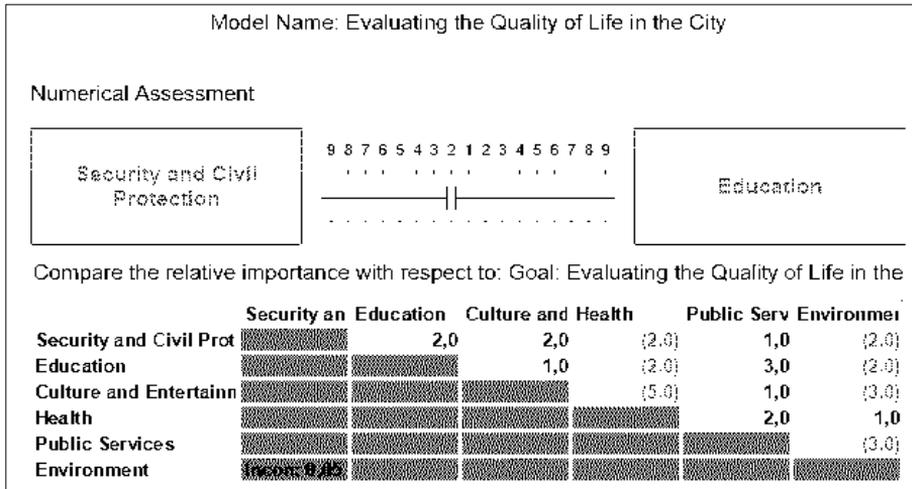


Figure 4 AHP comparison between key criteria. Source: by the researchers using software (Expert Choice)

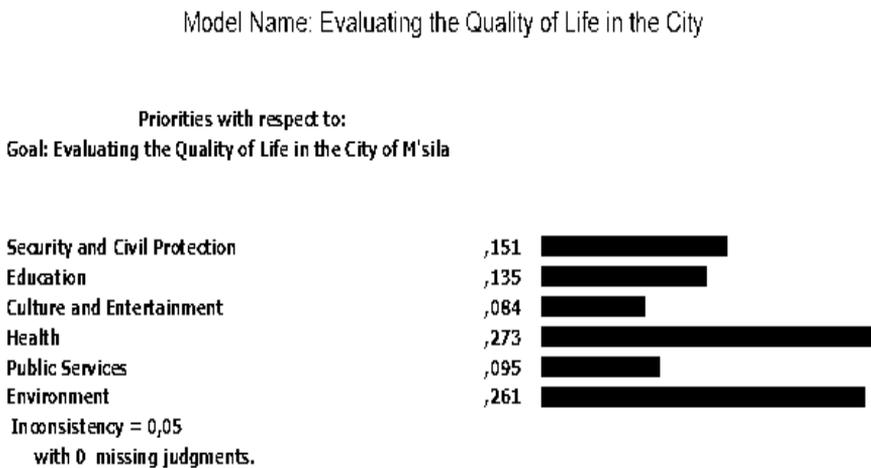


Figure 5 The weights of both the main and the sub-criteria. Source: by the researchers using software (Expert Choice)

5 RESULTS AND DISCUSSION

Through the map, the evaluation of upgrading residential neighborhoods (Figure 6), we note that high-end residential areas are concentrated in the city center, to provide all the services necessary for life and they achieve well-being for residents according to their opinion, followed by acceptable residential areas that do not move away from them much, providing their residents with the acceptable limit of necessities, and in the outskirts of the city is a degraded residential area. After the field survey, we noticed that it is the newly completed neighborhoods and the actual use of residents, shantytowns that provide nothing for their residents except educational services.

The findings in this paper illustrate the application of the Delphi method and the GIS serial hierarchy analysis process for the purpose of assessing the QOL in the city in order to improve the city. The tools currently available provide important advantages for decision makers in the areas of spatial decision-making to improve the city.

After the Raster life quality map was converted to Shapefile in its triple classification, the area for each classification was calculated summarizing the results in the following table (Table 2).

Through reading the map of QOL and assessing upgrading, we note that the areas that have achieved high QOL according to the AHP analysis are the city center and the surrounding areas, meaning that there is a distinction between the city's neighborhoods and the lack of equitable distribution of services and facilities, as the city needs to be redeveloped and achieve a principal Justice in one city.

Table 2 Percentage of AHP scale to assess the upgrading of residential neighborhoods in The City of M'sila

	Classes	Area sq. km	%
1	High-end residential areas	8,32	17%
2	Acceptable residential areas	17,52	35%
3	Deteriorating residential areas	24,17	48%

Source: by the researchers using software (Expert Choice)

The results of the decision-making application indicate that GIS is multifunctional and can include different levels of complexity of the decision problem (Drobne and Liseč, 2009). In this case, weight selection and AHP techniques played a crucial role. It is clear that decision makers who prefer a subjective scale may not reach the same weights as the criteria. This may lead to different results for QOL maps and may affect the final decision with regard to the overall objective. "The methods provided are only tools to help decision makers, they are not the same decision" (Drobne and Liseč, 2009).

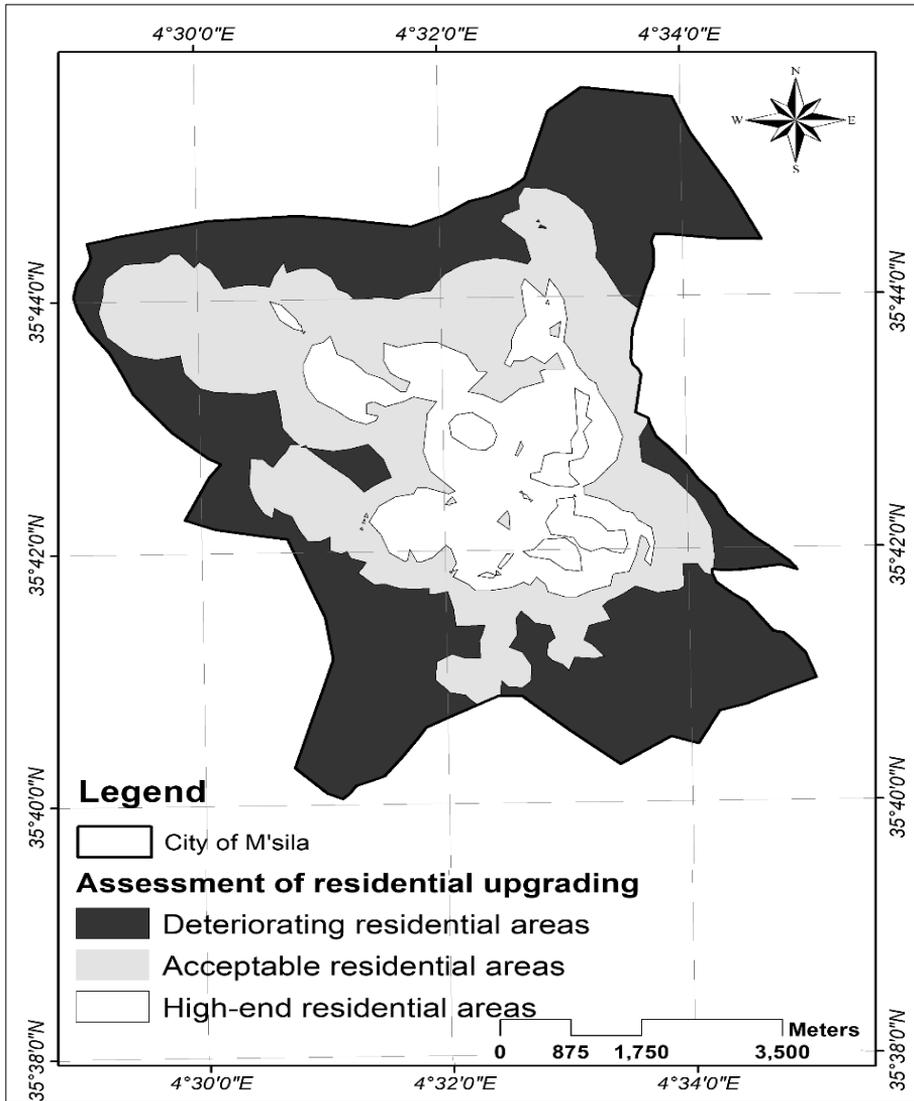


Figure 6 Map of the evaluation of the upgrading of residential neighborhoods in M'sila, Phase I. Source: Own elaboration

6 UPGRADING RESIDENTIAL NEIGHBORHOODS OF THE CITY OF M'SILA

By taking advantage of the results obtained and after field inspection, we record the needs in the previous evaluation criteria and through the GIS program, we choose the appropriate places to accomplish these services by analyzing the spatial correlation through pre-defined conditions such as: city need, availability of real estate, the distance from the services, the service scope, the distance from the places of natural and artificial hazards, for the housing density and the proximity to the transportation methods. The selected areas are from the deprived logic and the least benefiting from the services, this was applied to all the search criteria (Figure 7).

6.1 Assessing the QOL after the upgrading process

To assess the urban upgrading of the urban areas of M'sila, we use map results (Figure 7) through the database, where geographic information systems provide us with this analysis through the database and maps, but its difficulty increases as the number of layers to be searched increases, knowing that it can also be found the best site for QOL, the worst site for QOL can be found, as well as sites can be arranged according to their preference, dividing the criteria taken into consideration into levels, and giving more weight to one of these criteria than others. We extract the evaluation map with the same previous process in Figure 6. We use the same weights from Figure 5. The results appear on Figure 8.

Through the results of the table (Table 3) we note that the QOL in The City of M'sila after the project of upgrading the area of high-end residential areas became estimated at 36.66 km² by 73% after it was 08.32 km² by 17%, the area of residential areas accepted became 10.58 km² by 21% and after 17.52 km² by 35%. The area of the degraded residential areas became 2.77 km² by 6% after it was 24.17 km² by 48%, and through the output obtained we note a significant rise in the city of M'sila using this process.

Table 3 Comparing the results of the residential neighborhood upgrading scenario

Classes	Before the upgrade		After the upgrade	
	%	Area sq. km.	%	Area sq. km.
High-end residential areas	17%	8,32	73%	36,66
Acceptable residential areas	35%	17,52	21%	10,58
Deteriorating residential areas	48%	24,17	6%	2,77

Source: Own elaboration

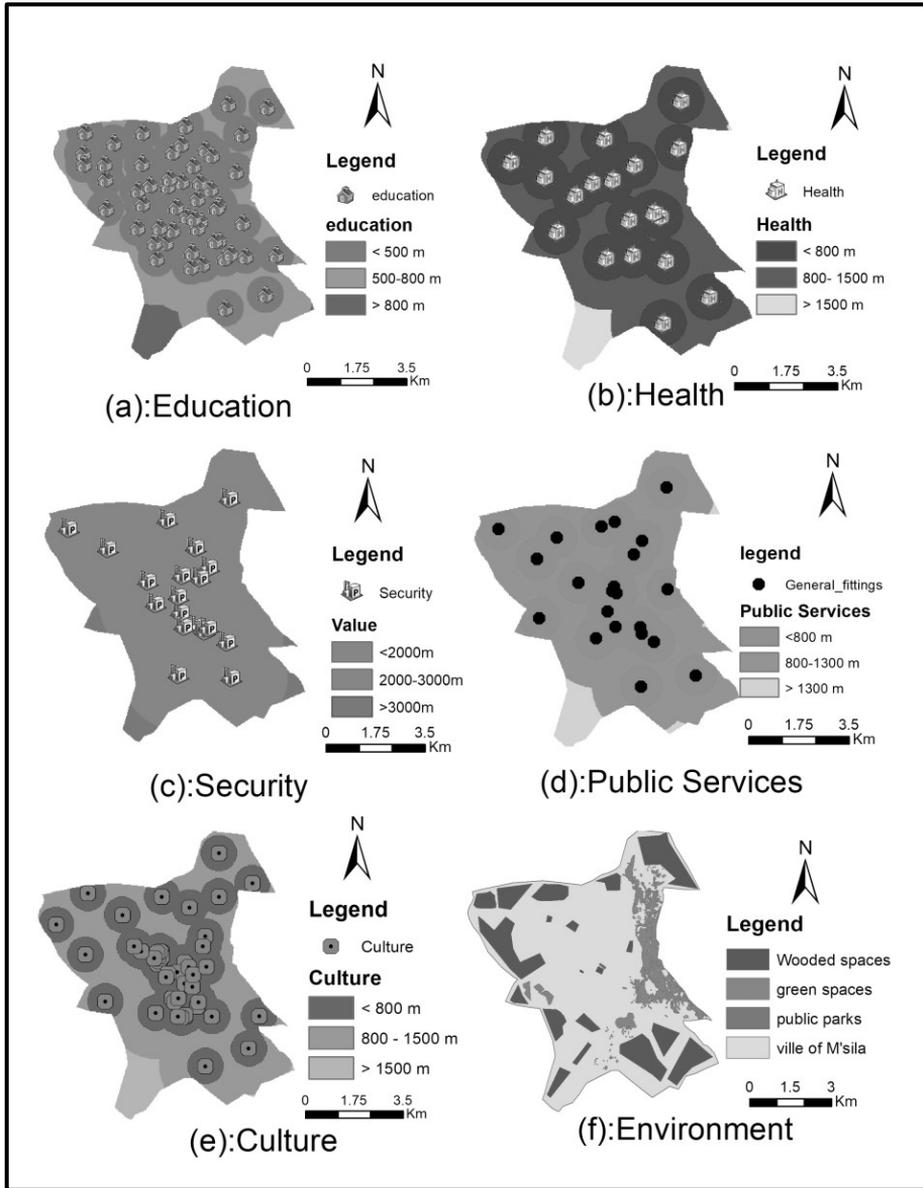


Figure 7 Factors studied in the analysis of the QOL after the upgrading process in the city of M'sila, Phase II. Source: Own elaboration

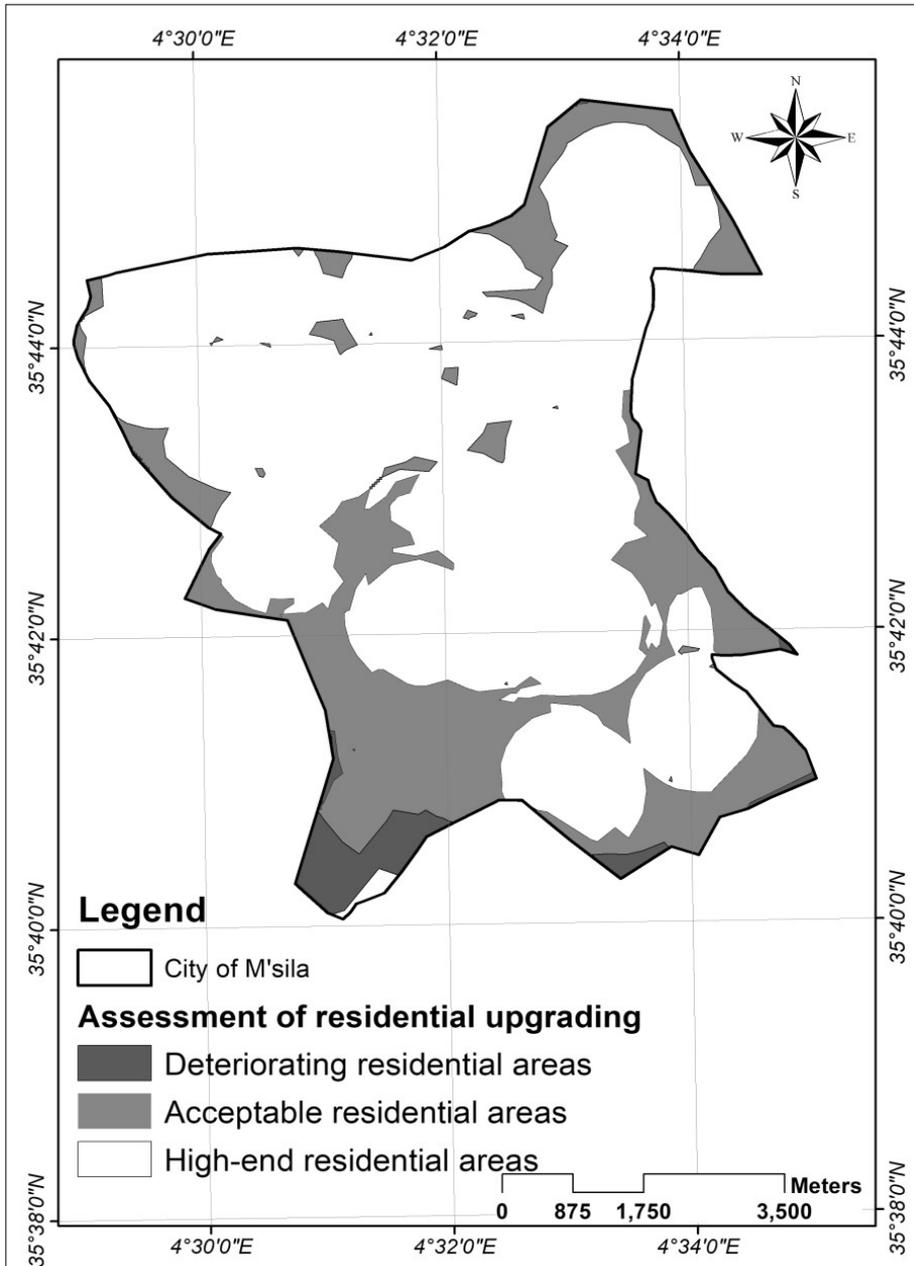


Figure 8 Map of the evaluation of the upgrading of residential neighborhoods in the City of M'sila, Phase II. Source: Own elaboration

7 CONCLUSIONS

In this research, we tried to explain the process that we adopted, which deals with modeling the process of upgrading the urban environment of residential neighborhoods of the city of M'sila, in which we proposed a way to improve it based on QOL indicators defined by experts with scientific and cognitive experience and field experience with the involvement of local residents. In assessing their residential environment, after determining the evaluation methodology, we extracted a QOL map to determine the less-quality residential neighborhoods that are concerned with the process of upgrading. In the last stage, we conducted a spatial analysis based on measuring the coverage distance where we do the abolition of the served area taking into account the method of choosing the best location for the city population, such as the availability of the real estate container and the proximity to the road and the distance from risks. After that we increased the six indicators and then we repeated the measurement process, after which the map of the evaluation of upgrading in terms of the last QOL was extracted and then we compared. Between the results of the first map before and after the upgrade process, the results obtained demonstrated an improvement in the study area by a significant rate of 56% as a difference between the two phases, the process demonstrated an uplift in the level of life according to the criteria approved in our research with population participation a qualitative shift in the level well-being of the locals spatially.

The results of the research can be used by the decision makers in order to establish a comprehensive development according to a studied scientific method. The results of the research methodology can also be used in evaluating cities. The results of the QOL map also enable the evaluation of the value of urban real estate.

In light of the results of the research, ideas can be presented to various topics, including detailing the quality of the spatial distribution of educational services or the quality in the domain distribution of public spaces sites.

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Scenáre aktualizácie mestského prostredia, prístup k rozvoju mesta a blahobytu obyvateľstva

Súhrn

Väčšina alžírskych miest zažila v uplynulých desaťročiach rozšírenie a zhoršenie mnohých sociálnych a mestských problémov, ktoré znepokojujú nielen riadiace inštitúcie, ale aj bádateľov urbanistov, sociológov, demografov, geografov i iných a samozrejme aj samotné obyvateľstvo. Takže nie je prekvapujúce, že nastupujúca kríza spojená s globálnymi problémami viedla k ďalšiemu zhoršovaniu kvality života v mestách. Mestá vyvíjajú veľké úsilie o zlepšenie kvality života (QOL – Quality Of Life), ktorú ponúkajú svojim obyvateľom, pretože obyvatelia sú viac menej stále pripravení presťahovať sa na miesta, ktoré poskytujú lepšie podmienky pre život, nielen v danom štáte, ale aj za hranicami krajiny, prípadne i na inom kontinente. Jedným z problémov, ktorým čelíme, je aj nedostatok všeobecne akceptovanej metodiky merania kvality života v meste, čo je mnohostranný problém, ktorý vyvolal v poslednom období veľký záujem o urbánnu geografiu. Prakticky každý bádateľ hodnotí kvalitu života v meste podľa svojho odboru a špecializácie a samozrejme aj podľa svojho osobného pohľadu na tento fenomén. V posledných rokoch sa čoraz častejšie berú do úvahy ukazovatele ako rozmanitosť ľudskej práce, vrátane kreatívnych pracovných zameraní a tiež aj rozmanitosť bývania.

Hlavným cieľom predkladanej štúdie je snaha o modernizáciu obytných štvrtí pre zlepšenie kvality života obyvateľstva. Na tento cieľ sme použili postup rozdelený do dvoch krokov:

1. Zavedenie modelu na meranie QOL v meste ako metódy modernizácie obytných štvrtí s využitím nekonvenčných techník pri rozhodovaní.
2. Prostredníctvom porovnania a analýzy zhodnotiť QOL v obytných štvrtiach, aby sa poznali silné a slabé stránky mesta, čo by umožnilo poskytnúť účinný vedecký príspevok k dosiahnutiu základov nového mestského plánovania v súlade s požiadavkami jednotlivca a spoločnosti.

Mesto M'sila je jedným z vnútrozemských miest Alžírsku a nachádza sa v nasledujúcich zemepisných súradniciach: medzi rovnobežkami 35°48' a 35°67' severne od rovníka a medzi poludníkmi 4°57' a 4°48' východne od Greenwichu. Mesto má diverzifikovanú ekonomiku, rozkladá sa na ploche 232 km² a v roku 2014 malo 214 661 obyvateľov. Hustota zaľudnenia je tu 925 obyvateľov na km².

V urobenom výskume sme sa pokúsili vysvetliť postup, ktorý sa zaoberá modelovaním procesu modernizácie mestského prostredia obytných štvrtí mesta M'sila. V meste sme navrhli spôsob zlepšenia kvality života na základe ukazovateľov QOL definovaných expertmi s vedeckými a kognitívnymi skúsenosťami i zo skúsenosťami z terénu s využitím percepcie mestského prostredia miestnymi obyvateľmi. Pri hodnotení ich obytného prostredia sme po stanovení metodiky hodnotenia extrahovali mapu kvality života, aby sme mohli určiť menej kvalitné obytné štvrte, na ktoré by mali byť aplikované procesy modernizácie.

V poslednej fáze výskumu sme vykonali priestorovú analýzu založenú na meraní vzdialenosti dochádzky za prácou. Postupne sme zvýšili počet hodnotiacich ukazovateľov na šesť, potom sme zopakovali proces merania, po ktorom sa extrahovala mapa hodnotenia upgradu z hľadiska poslednej QOL a následne sme porovnali výsledky prvej mapy pred a po procese aktualizácie. Získané výsledky preukázali zlepšenie v študovanej oblasti o významnú mieru až 56 % ako rozdiel medzi dvoma fázami. Proces modernizácie mestského prostredia preukázal zvýšenie úrovne života vo vzťahu ku kritériám prijatým v našom výskume s využitím poznatkov od obyvateľstva. Výsledkom je badateľný kvalitatívny posun v úrovni kvality života miestnych obyvateľov žijúcich v skúmanej oblasti.

Výsledky výskumu môžu použiť osoby s rozhodovacou právomocou v meste na vytvorenie komplexného rozvoja mesta a jeho jednotlivých častí. Výsledky predstaveného výskumu a aj samotnej metodiky výskumu je možné využiť pri hodnotení kvality života aj iných miest. Výsledky mapy QOL umožňujú aj hodnotenie zmeny hodnoty mestských nehnuteľností.