Geography and Quality of Life in Argentine Regions: Socioeconomic and Environmental Inequalities

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Guillermo Ángel Velázquez and Juan Pablo Celemín

14.1 Introduction

One of the major attributes of the quality of life (QOL) concept is its intrinsic interdisciplinary character. Therefore, in the last decades, quality of life studies have arisen in a wide range of scientific disciplines. In this context, the fundamental perspective of the role that geography plays in QOL research seems to be precise: Based on the geographer's expertise, to study the spatial variations and distribution of particular, relevant components and processes, and to subsequently synthesize the acquired knowledge. The preferential strongpoint of geography resides in its capability to assess the spatial differentiation of quality of life indicators and indices in a concrete territory (Andráško 2008). According to Pacione (1986), the structure and distribution of QOL constitute a key area of research in geography. Moreover, the analysis of QOL from a geographic perspective relies mainly on the development of indices with the highest possible level of territorial disaggregation, reflecting the relative wellbeing of the population (Velázquez and Celemín 2013). Andráško (2008), Pacione (1986), and Cutter (1985) analyzed in detail the

origin and importance of geography in the study of QOL.

The relevance of geography in this field of work has reached new horizons with the use of Geographical Information Systems (GIS) which facilitate the elaboration of well-being and quality of life maps in different scales and territories based on secondary data and personal surveys. By including not only information on social, economic, climate, and environmental observations, but also its location and spatial arrangement in GIS database the system allows to present data in the form of maps and interfaces and to perform comprehensive and sophisticated spatial analysis. In many countries -both developing and industrial- this system has become the single most important tool for analyzing a wide range of geographic and socioeconomic data and for designing policy measures (Bigman and Fofack 2000, pp. 131–132). Research combining QOL and GIS strongly supports this notion (Celemín and Velázquez 2018; Jensen Rinner 2007; McCrea et al. 2006; Jensen et al. 2004; Lo and Faber 1997, among others).

The risk of mapping QOL data lies in the ecological fallacy of attributing average conditions in any area to an entire population. This trap remains a necessary evil of the spatial or territorial approach to the study of QOL; the larger the unit of inquiry the greater the potential ignorance of internal variations from the mean position (Pacione 1982, p. 509). This phenomenon, typical of geography and geographic

G. Á. Velázquez (✉) · J. P. Celemín
National Scientific and Technological Research Council, CONICET/IGEHCS, Tandil, Province of Buenos Aires, Argentina
e-mail: gvelaz@fch.unicen.edu.ar; jpcelemin@conicet.gov.ar

information systems, is known as the Modifiable Areal Unit Problem (MAUP) (Openshaw 1983). Thus, territorial division and usual clusters are not "neutral". Therefore, it is possible to cover inequalities by grouping heterogeneous territories and societies, but no territorial division can ever "create" or "reproduce" inequities if they do not exist in reality. This problem is present in all the indicators analyzed at a geographic scale (Celemín and Velazquez 2018).

But what is QOL? Quality of life is a theoretical category that emerges in the second half of the twentieth century, and that remains controversial about its meaning and conceptual range. Sirgy et al. (2006) conducted exhaustive research in which they discuss the past, present, and future of quality of life on a global scale, while Hagerty et al. (2001) looked at 22 of the most widely used quality of life indices around the world. The vast and complex interdisciplinarity of this notion is associated with various conceptions that were recently defined in Michalos (2014). In 1995, the International Society for Quality of Life Studies (ISQOLS—www.isqols.org) was founded with the main objective of promoting the development of quality of life research and encouraging interdisciplinary inquiry (Tonón and Rodriguez de la Vega 2016). ISQOLS released a detailed document about the definition and terminology of quality of life (Cummis 1998).

From an operational point of view, in order to study QOL in a particular place, we need to measure conditions in that territory using sets of indicators. Moreover, we need to observe changes in those circumstances over time in order to evaluate or determine if and how those conditions have changed. And if they have changed, it should be determined if they have improved or deteriorated and to what extent (Marans and Stimson 2011, p. 2).

Life quality (as well as human development) is an achievement measurement regarding an established scale considered as "optimal", in terms of social, economic and environmental dimensions that depend on prevalent values in society. It may change depending on the historical progress expected by the society under analysis (Velázquez 2001). Poverty is an objective measure that describes the disability of individuals to achieve generally-established and socially-accepted minimum thresholds of financial conditions. These parameters may reflect either temporary (poverty line) or structural (unsatisfied basic needs) situations. As noted by Sen (2012), life quality can be analyzed by the traditional economic definition (in the sense of welfare) or by a more humanistic explanation (in the sense of well-being).

From a geographic perspective, quality of life studies a cluster of "real-world problems" and it is inevitably connected to applied geography (Pacione 1999) as it not only identifies particular issues, but also points out the possibilities of their solution and outlines the direction the society should follow to ensure a satisfactory degree of QOL in the study area (Andráško 2008).

Indices combining social, economic and environmental variables can be used to inform the general public and decision-makers about the ongoing living conditions of the population. The major constraints for the elaboration of an index are the accessibility, availability, and reliability of statistical data, particularly of those describing characteristics at an urban or a municipal level. Moreover, information aggregation and simplification reduces the analytical power of the results, while, it allows all sectors of society to view a large amount of summarized data (Tanguay et al. 2010).

In this framework, we developed a Life Quality Index (LQI) with two distinctive dimensions: one related to socioeconomic data and the other to environmental characteristics. The first one contains those variables related to education, health, and housing, while the environmental dimension includes those linked to environmental problems as well as to the degree of attraction of "naturally based" landscapes and "socially constructed" amenities.

The elaboration of LQI measures requires an approach that includes quantitative and qualitative procedures and, in order to do so, it calls for a clear conceptualization of the relationship between the variables and a solid structure (Maggino 2009). The present index resorts to an ample notion of the environment, since it can be

seen as the relationship established between society and the physical environment, whether built or artificially made, taking place in a delimited territorial space as it involves simultaneous consideration of overlapping land uses (Herzer and Gurevich 2006). This is mainly seen in large cities and in their surroundings and results in an environment whose principal feature is to be "socially constructed", making it fundamentally different from the natural environment studied in Ecology (Metzger 2006). Usually, urban indices include the common environmental variables related to pollution, water quality, transportation, and security. However, a very important characteristic is mostly ignored: amenities and cultural displays. Even though many studies link tourism with living conditions, few emphasize the part that cultural industries play in the growth and development of a city and in improving urban aesthetics (Nissan 1997). Consequently, LQI does not only contemplate the usual factors related to environmental quality but also others associated with the elements of the built environment, such as urban amenities. However, it includes the usual environmental problem variables that influence the sustainability of the environment, including society. If the environmental problems are not measured, there is no objective way of quantifying the magnitude of the environmental impact. The inclusion of the environmental dimension allows us to better understand the environmental sustainability of the study area. It is a vague concept addressed by multiple disciplines. It is often associated with other notions, also diffuse and complex, such as quality of life, sustainability, and livability (van Kamp et al. 2003). In fact, according to Fishbein (1969, p. 2130), environmental quality really means quality of life for being a social phenomenon. It is social because man is the focus of concern. A comprehensive contribution is provided by Luengo (2002) who defines it as the optimum conditions that govern the behavior of living space in terms of comfort related to the ecological, biological, economic, productive, socio-cultural, typological, and technological dimensions. Thus, the environmental quality is, by extension, the product of the interaction of these variables that constitute a healthy, comfortable habitat able to meet the basic requirements of sustainability of individual human life and social interaction within the urban environment. Given the versatility of this concept, Escobar (2006) indicates that environmental quality can be conceived as a component of sustainable urban development, along with economic and social conditions. Sustainable development should integrate social, environmental, and economic sustainability and use these three to start to make development sustainable (Goodland 1995).

The spatial expression of the environmental quality is similar to the spatial performance of other social and economic indicators in Latin America. As a consequence, a new concept, called environmental inequality, emerges, according to which social sectors with fewer resources are often more exposed to and affected by environmental problems (air pollution, poor-quality housing, dirty streets, high traffic, and few local amenities). This sector also has less access to environmental assets (sufficient energy, healthy food, and clean water), a fact with long-lasting deleterious effects on health and welfare (Catalan-Vazquez and Jarillo-Soto 2010). Therefore the notion of environmental inequity refers to a specific social group that is significantly affected by environmental risks, unlike environmental justice with which it is closely associated. The latter holds the fair treatment and meaningful involvement of all people and communities in the development, implementation, and enforcement of policies, laws and environmental regulations (Brulle and Pellow 2006).

14.2   Elaboration of the Life Quality Index

LQI depends on various elements such as historical processes, social value scales, individual and collective experiences and expectations, private dimensions (income, education), public dimensions (utilities accessibility, environmental issues), analysis scales, available information adjustment (geo-referencing), and result validation. This index is intended to overcome the

limitations linked to the temporal and spatial restrictions entailed in the collection of environmental data with respect to the current availability of social and economic information, a problem faced by many developing countries, especially at large spatial scales. As a consequence, we considered socioeconomic dimensions (education, health, and housing), environmental conditions and landscape attractions (nature-based recreational resources, socially constructed recreational resources, and environmental problems) for our study.

Some variables of the environmental dimension of our LQI use subjective data. As Gallopin (1996, 2006) points out, qualitative indicators can be preferable to quantitative indicators in at least three cases: when there is no availability of quantitative information; when the attribute of interest is inherently non-measurable (such as it happens with many variables of cultural or political nature); and when cost considerations become determinant. The use of subjective procedures is already present in the environmental field as it is a very regular practice in the environmental impact assessment (EIA), which is mostly based on professional knowledge. The appraisals of experts engaged in an environmental impact assessment play a significant role in their results due to the considerable subjective decision-making upon which EIA is based (Wilkins 2003, p. 401). Indeed some parallelism exists between this statement and our proposal of variables selection and measurement, in which, just like in the EIA, professional expertise, intuition and value judgment are acknowledged (Weston 2000). As noted by Diener and Suh (1997), the ensembled use of objective and subjective variables contributes to a more robust approach to QL research since both provide alternative views of quality of life, thus breaking the antagonism of purely quantitative or qualitative methods, since each of them regards a distinctive aspect of society welfare.

The index (Table 14.1) is the result of our own experiences, and of our previous papers broadly discussed (Celemín and Velázquez 2012, 2018). It was then normalized to ensure comparability:

The first step in the elaboration of the index was to transform rates into a partial index-number.[1] This was carried out according to the variable type based on the following procedure:

$$f(a) = (a - min)/(Max - min)$$

Regarding the relative weight of each variable, we determined a life quality index (LQI) whose theoretical value ranges from 0 to 10 to reflect the worst and best situations, respectively.

The Socioeconomic Dimension is composed of six variables:

- Education indicators
  - Percentage of population aged 15 years or older that has dropped out of school or with an educational level below elementary school.
  - Percentage of population aged 15 years old or older who has not attended and/or graduated from university/college.
- Health indicators
  - Infant mortality rate (the number of infant deaths under 1-year-old per 1000 live births).
  - Percentage of population with health coverage or other forms of health insurance.
- Housing and infrastructure indicators
  - Percentage of overcrowded households (those where more than two people live per room).
  - Percentage of population living in homes with no private toilet/restrooms.

The Environmental Dimension is composed of 23 variables (Table 14.2) that integrate the Environmental Quality Index (EQI) with a partial 40% weight of LQI. EQI results from the weighted combination of:

(a) 30% natural-based recreational resources (NBRR-benefit variables).
(b) 30% socially-constructed recreational resources (SCRR-benefit variables).
(c) 40% environmental problems (EP-cost variables).

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[1] This normalization procedure is also used for the calculations of HDI (Sagar and Najam 1998). It is known as omega (Ω) score or rescaling.

Table 14.1 Dimensions, variables and weights of LQI

Dimension	Variables cost (c) and benefit (b)	Partial weight (%)
Socioeconomic		
Educational	Incomplete primary education (c)	10
	University degree (b)	10
Health	Infant mortality rate (c)	10
	Population without health coverage (c)	10
Housing	Overcrowded households (c)	10
	Lack of private toilet/restroom (c)	10
Environmental		
Environmental	Nature-based resources (b)	10
Quality	Socially constructed resources (b)	10
Index	Environmental problems (c)	20
Total		100

Source: Velázquez and Celemín (2013)

Therefore:

$$EQI : ((3 * NBRR + 3 * SCRR) + (4 * (10 - EP))/10$$

14.3 Spatial Analysis of the Life Quality Index

The spatial units in the study area comprise the 511 departments of Argentina which are grouped into 23 provinces and one Federal District (Autonomous City of Buenos Aires) composed by 15 communes (Figs. 14.1 and 14.2). The country can also be analyzed from the six regions defined by the National Institute of Statistics and Censuses. The Argentine population according to the 2010 census (INDEC 2012) accounts for 40,091,359 inhabitants.

Of the six regions that make up the National Institute of Statistics and Censuses (Fig. 14.3), the Northeastern is the one that exhibits the lowest quality of life in Argentina (6.01 points). This region accounts for the greatest relative presence of peasant population and indigenous people that, throughout the different stages of Argentine economic history, have been relegated to the role of raw material producers with little added value. This economic framework has undergone different cycles depending on the main primary product (quebracho, cotton, yerba mate) resulting in a degraded environment. The lack of employment and chronic economic backwardness have contributed to a sustained exodus of its population, either to the main cities of the region, or to other parts of Argentina.

The attempts to diversify its productive structure have been mostly unsuccessful. Its demographic structure is young, with higher fertility and mortality rates than the rest of the country. Its urban system is weak, centralized with visible infrastructure deficit. Outside the four provincial capitals, living conditions deteriorate even further, particularly in the west of Chaco and Formosa provinces, where subsistence economy and aridity conditions prevail. In western Misiones and northwestern Corrientes, pauperized peasant families reside.

The Northwest (6.33 points) is the second region with the lowest LQI in Argentina. It is the most ancient and traditional area of the country, also with a high relative proportion of native and peasant populations living in isolated conditions. The regional productive structure is based on few primary products, with sugarcane as the regional "trademark" during the agro-export period. The diversification processes have had greater relative success here than in the northeast, though they have been very traumatic, resulting in mass exoduses of populations, mainly in some provinces during specific periods. Certain provinces (La Rioja, Catamarca) have been subject to industrial promotion regimes for some decades with poor results.

Table 14.2 Indicators, variables (cost (c) and benefit (b)), approach and sources of the EQI

Indicator	Variable	Approach Subjective (direct) Objective (indirect)	Source
Nature-based recreational resources (30% weight)	Beaches (b)	Subjective	Municipal information/field trips/satellite imagery
	Resorts in streams, rivers, and lakes (b)	Subjective	Municipal information/field trips/satellite imagery
	Natural spas (b)	Subjective	Municipal information/field trips/satellite imagery
	Presence of ice and snow for winter activities (b)	Subjective	Municipal information/field trips/satellite imagery
	Relief (b)	Subjective	Municipal information/field trips/satellite imagery
	Lakes and streams (b)	Subjective	Municipal information/field trips/satellite imagery
	Parks and green open spaces (b)	Subjective	Municipal information/field trips/satellite imagery
Socially constructed recreational resources (30% weight)	Urban aesthetic/urban heritage (b)	Subjective	Municipal information/field trips
	Cultural centers (b)	Subjective	Municipal information/field trips
	Shopping malls and other amenities (b)	Subjective	Municipal information/field trips
	Sports centers (b)	Subjective	Municipal information/field trips
Environmental problems (40% weight)	Use of pesticides in agriculture (c)	Objective	PNUD (2010)
	Industry and mining participation in GDP (c)	Objective	National Institute of Statistics and Censuses
	Pollution/Noise/Traffic (c)	Subjective	Municipal information/field trips/urban scale
	Hazardous locations (c)	Subjective	Municipal information/field trips/satellite imagery
	Locations with negative externalities (c)	Subjective	Municipal information/field trips/satellite imagery
	Crime rate (c)	Objective	Ministerio de Justicia y Derechos Humanos
	Percentage of population living in slums (c)	Objective	National Institute of Statistics and Censuses
	Percentage of population living near dumps (less than 300 m) (c)	Objective	National Institute of Statistics and Censuses
	Seismicity and volcanism (c)	Objective	Chiozza and Figueira (1982)
	Tornadoes (c)	Objective	Altinger de Schwarzkopf (1999)
	Flooding (c)	Objective	National Institute of Statistics and Censuses
	Climate (dis)comfort (c)	Objective	Bioenvironmental classification of the Argentine Republic (1996)

Source: Celemín and Velázquez (2012)

Ethnic and cultural elements play a key role with characteristics of their own. Outside the cities, the relics of pre-capitalist modes of production such as barter are still frequent. The main cities are located in the central valleys, which concentrate the largest proportion of population and services. Both to the west (Puna) and to the east (Chaco Salta and Santiago del Estero) living conditions are deteriorated by the combination of environmental adversity (aridity in the P. Puna,

**Fig. 14.1** Regions and provinces of Argentina (Source: Authors' elaboration)
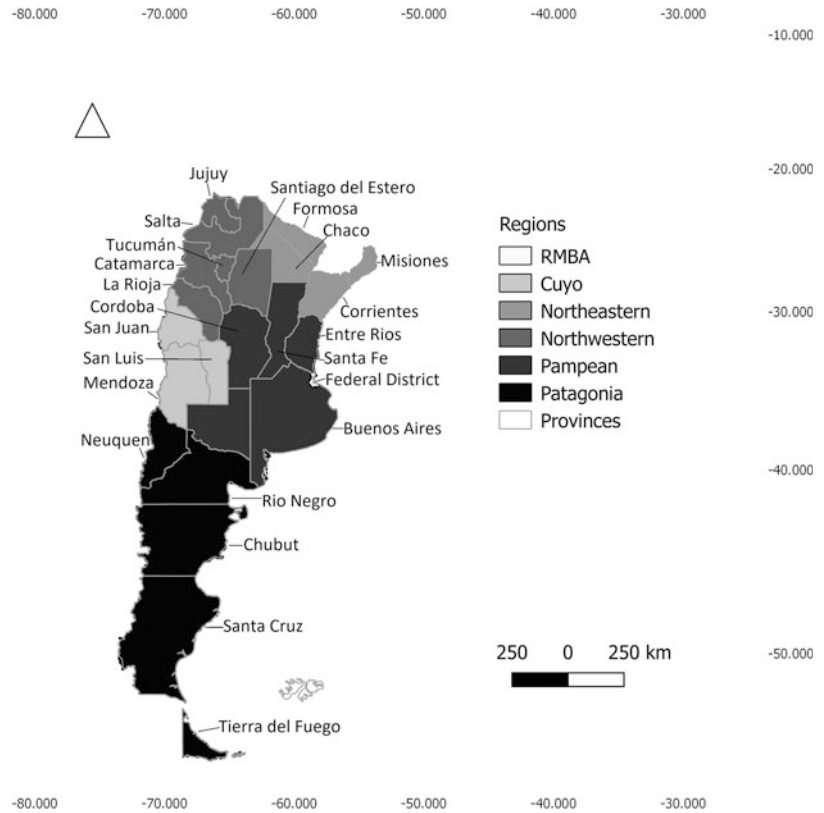
deforestation and degradation in the Chaco), and poor socioeconomic performance: housing, health and education are affected by severe deficiencies.

The Metropolitan Region of Buenos Aires (MRBA, 6.77 points) is the third region with the lowest LQI. It seems surprising that the most densely populated and industrialized region occupies such a relative position. This fact could be ascribed to the relative stagnation of its socioeconomic development when compared to other regions. It could also be explained by the environmental problems –namely pollution, noise, traffic jams, and social conflict- in a framework of relative scarcity of recreational resources in relation to the demanding population (around 13 million inhabitants). In a few kilometers, the process of social fragmentation of this territory is evident. The northern axis of the conurbation shows the best conditions, both socioeconomic and environmental. The same happens in the

north of the Autonomous City of Buenos Aires. In contrast, the second crown of the conurbation experiences the worst conditions, especially towards the west and south. The combination of poor urban infrastructure in a context of social vulnerability, with precarious employment, low educational level and residential overcrowding is reflected in the very-low quality of life scores. The greatest relative deterioration of this region is also linked to the reconversion of its productive apparatus during the nineties. Precisely, between 1991 and 2001 the region moved from the 2nd to the 4th position in quality of life terms among the six regions that make up the National Institute of Statistics and Censuses (INDEC). Since then, self-employment and other forms of precarious work have skyrocketed, deepening social fragmentation in this area.

The Northeastern, the Northwestern, and the MRBA display the worst relative performances. As regards the best-positioned regions, Cuyo

**Fig. 14.2** Departments of Argentina (Source: Authors' elaboration)
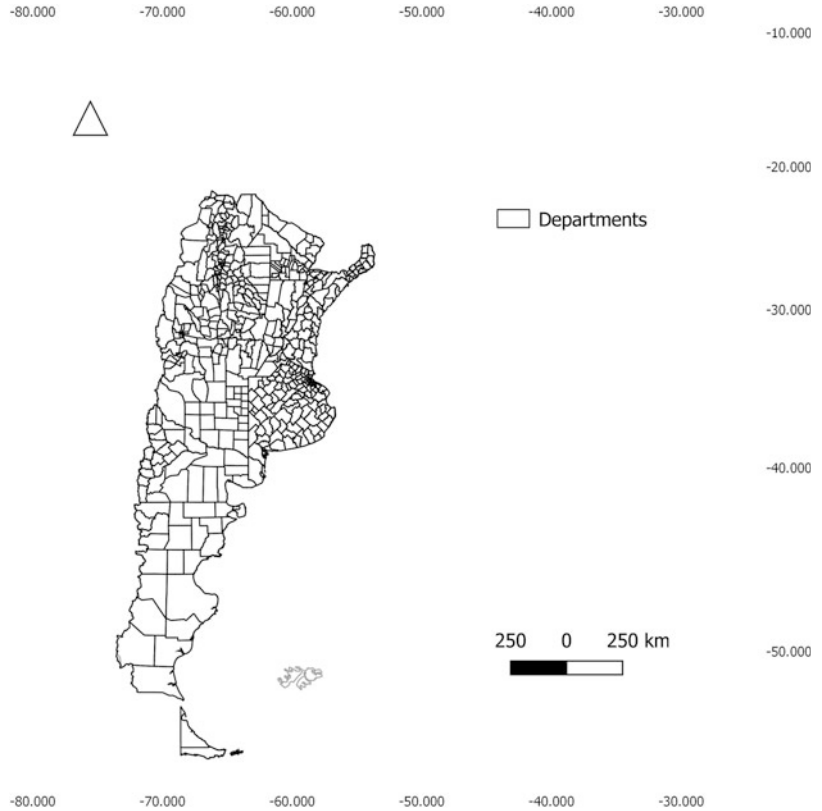
(6.91 points) ranks third starting from the top of the LQI index. This region has a diversified economic structure, originally viable in the wine industry and other derived activities, which take place in the main oases of this arid region: Mendoza, San Juan, and San Rafael. Outside these oases and other minor ones, there are, towards the west, high mountain areas and, towards the east, transitional environments with low population density. This region is characterized by a dichotomy: on the one hand, the most adverse conditions are recorded outside the oases, in the so-called "travesías", which sustain serious environmental problems (principally water deficits), have a very low population density and have historically been relegated. On the other, in the main oases, the population, infrastructure, utilities and, basically, the allocation of resources by various national and provincial administrations have consolidated Mendoza city, the regional capital. San Juan and San Luis provinces, in turn, have historically been

relegated to secondary roles. Both provinces have tried to revert this situation with industrial promotion regimes during the eighties and nineties, achieving some partial results. During the last decades, San Juan also joined the megamining in an attempt to diversify its economic structure. Even though this process has generated some tax revenues, it has also produced some environmental issues, mostly in the high mountain areas.

The Pampean region (6.93 points) ranks second in quality of life. Despite the fact that, in the imaginary, it constitutes the most privileged region of Argentina due to its diversified economic structure and its leading role as an agroexporter, it has internal differences. The region concentrates the largest population of Argentina, mainly in the Province of Buenos Aires. Nonetheless, Córdoba and Santa Fe provinces also contain large population areas. Unlike Buenos Aires, which traditionally developed on the basis of livestock production, Córdoba and Santa Fe

Fig. 14.3 LQI for Argentina (deciles) (c. 2010) (Source: Authors' elaboration)
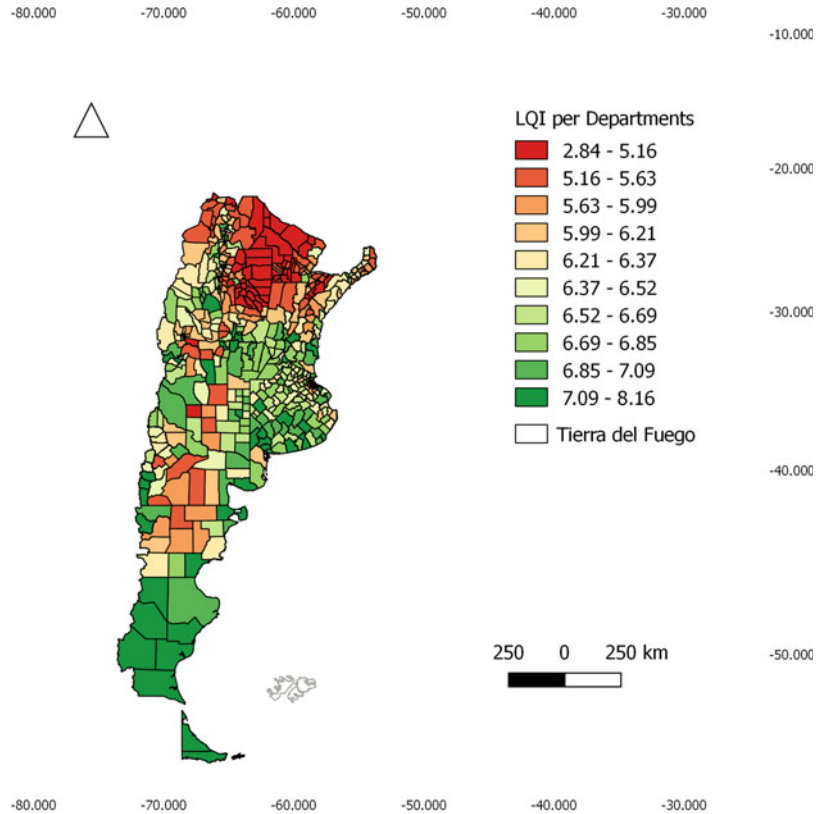
were structured from agricultural colonies, principally in the center and southern areas, which gave rise to important productive chains. As regards Entre Ríos and La Pampa, these two provinces still have little industrial activity, and have tried to diversify their economies with tourism. This initiative was more successful in Entre Ríos, due to its water and thermal resources and its proximity to the MRBA, the quintessential claimant of recreational services.

In the Pampean region, the quality of life degrades from the center towards the periphery (northern Entre Ríos, Córdoba and Santa Fe, and western La Pampa), although there are also adverse nuclei in some areas of contact with the MRBA and the Río Salado basin.

The Patagonia region (7.03 points) leads the ranking in living conditions in Argentina. This role, which, to a certain extent, contradicts "common sense", is explained by the presence of the State during the last seven decades based on a

series of active policies: salary incentives (salaries are much higher than in the rest of the country), special customs regimes, industrial promotion, subsidized utility rates, among other benefits. Consequently, this region has been receiving migrants from different parts of the country, mainly from the northern provinces. However, the region also exhibits significant inequalities. In general, the coastal axis shows a very good relative situation. The same applies, though to a lesser extent, in the mountain range axis (to the west). The central plateau, however, is affected by adversity and isolation that, by virtue of its low demographic weight, has little effect on the general index of this region. Beyond this regional comparison, which suggests a sort of "latitudinal" gradient in the quality of life, we must point out the influence of a series of differentiation factors: migratory dynamics, centrality and accessibility, urban scale, wealth, and public policies. The demographic dynamics shows that provinces

with an important immigration component in its population (Santa Cruz and Tierra del Fuego) exhibit the highest quality of life indexes, while other provinces with a lower immigration component yield intermediate LQI values.

Regarding centrality and accessibility, a distance analysis of LQI from the federal district (Autonomous City of Buenos Aires) shows that this index decreases sharply only 40 km away from this area, showing a classic center-periphery fragmentation between the capital city and most of the departments that make up the Metropolitan Region of Buenos Aires. Beyond these first 40 km, outside the Metropolitan Region of Buenos Aires, LQI begins to increase (sub-region of the Pampa Ondulada). This trend continues up to reaching 500 km away (rest of the Pampean Region). From this distance onwards, outside the Pampean Region, LQI decreases even more, since the relative demographic weight of the northern regions counteracts the positive values of the Patagonia region.

Considering the urban scale, the highest level of welfare is registered in large to intermediate cities (400,000–999,999 inhabitants, LQI 7.11) followed by middle-sized ones (50,000–399,999 inhabitants, LQI 7.04). The largest cities and the Metropolitan Region appear third in the scale (LQI 6.96), penalized, mainly by environmental variables, albeit the performance at the socioeconomic dimension not being entirely satisfactory. Finally, small cities (20,000–49,999 inhabitants) and large towns (2000–19,999 inhabitants) rank fourth (LQI of 6.53 and 6.00, respectively), while small towns (up to 1999 inhabitants) and scattered rural populations have to overcome the worst situations (LQI 5.05), due to the scarce education and health services available, and the relative scarcity of socially constructed recreational resources.

Regarding wealth, the relation between GDP and LQI was very high in 1980, 1991, and 2001. In 2010, this relationship continued to hold, though not so markedly. This decline could probably be explained by certain territorial redistribution policies enforced by the National State during the first decade of the twenty-first century. In this sense, public policies play a decisive role

in the quality of life of the different regions. Regarding the two extreme cases, the Northeastern and the Patagonia regions (areas with the worst and best relative situation, respectively), the relative gap between their average scores narrowed considerably between 2001 and 2010. LQI values for the Northeastern and Patagonia regions were 4.62 and 6.48, respectively in 2001; while, in 2010, the Northeastern accounted for 6.01 and the Patagonia for 7.03 points. The other regions registered the following LQI scores in 2010: Northwestern: 6.33; MRBA: 6.56; Cuyo: 6.91; and Pampean: 6.93.

This regional vision will be complemented with a systematic one, i.e., a vision more focused on highlighting the extreme situations of quality of life in Argentina (Table 14.3).

In decile 10 (10% of the departments with the worst quality of life), there are 54 units that cover just over one million people. Almost all of them reside in the north (660,000 in the Northeastern and another 413,000 in the Northwestern region). The population included in the rest of the territory is small (17,000 in Cuyo and 1500 in the Pampean region).

This is the most unfavorable area with a deficient educational situation (more than one third of the population did not complete primary education and just over 1% completed higher studies). The same applies to health services: 2/3 of its residents still lack health coverage and the infant mortality rate almost doubles the national average. Dwelling conditions are also highly deficient: almost half of the population lacks toilet with water discharge in their homes and almost one sixth lives in severe overcrowding (Table 14.4). Finally, this neglected territory is characterized by its low environmental quality due to the combination of environmental problems and relative scarcity of recreational resources.

At the opposite end, in decile 1, 50 departments and communes of the Autonomous City of Buenos Aires are included, where more than eight million inhabitants reside. Of these 8 million, 3.7 live in the Pampean region and 2.9 in the MRBA. Both regions concentrate a large proportion of the population with the best

Table 14.3 Quality of life in 2010

Decile	N° of Dep.	Population (Thousands)		North-eastern	North-western	Cuyo	Pampean	MRBA	Patagonia
10	54	1092.0	N° of Dep.	27	25	1	1	0	0
			Pobl.	659.9	413.5	17.1	1.5	0	0
9	50	2143.3							
8	49	5128.4							
7	54	2996.1							
6	49	1978.0							
5	52	3618.9							
4	46	2782.4							
3	46	3682.9							
2	49	7308.3							
1	50	8144.0	N° of Dep.	0	1	7	14	14	14
			Pobl.	0	75.1	851.5	3676.1	2889.0	652.2

Number of departments and population, according to quality of life categories, by deciles. Extreme cases
Source: Authors' elaboration

Table 14.4 Quality of life in 2010

	Education		Health		Housing			
	A	B	C	D	E	F	LQI	EQI
Decile 1	36.1	1.2	17.4	66.3	47.2	13.5	5.45	4.65
Decile 10	7.8	13.7	8.9	23.1	18.8	1.1	7.36	7.61

Average indicators for resident population. Extreme deciles
Source: Authors' elaboration

living conditions. This does not mean that in both regions the situation is ideal. There is simply a large population group with excellent living conditions that coexists, on a daily basis, with numerous segments deprived of said conditions, thus evidencing a process of social fragmentation, especially in the MRBA. In the Cuyo and Patagonia regions, also a significant part of the population lives under good living conditions (851,000 and 652,000, respectively). Reaching this decile in northern Argentina is rather exceptional. In the Northwestern, only 75,000 people living in Yerba Buena (Tucumán) achieve this decile, while in the Northeastern none of the departments manages to get to the top of the LQI.

In this territory, education reaches the highest rates in the country: less than 8% do not complete basic education and almost 14% complete full university education. Regarding health, almost 80% of the population has social insurance and the infant mortality rate is relatively low (8.9 per thousand). Household overcrowding is low (just over 1% of the population), although the absence of toilets is still a problem, as it affects almost 20% of the population (Table 14.4). Finally, the environmental context tends to be favorable since, despite suffering some problems, the recreational resources available to the population are relatively important.

It is worth noticing that, in general, the deciles with the best situation (2, 3, 4, and 5) include most of the population (more than 17 million people, which added to decile 1 would total more than 25 million). On the other hand, the deciles with the worst situation (10 and 9) add up to just over three million people who should be an absolute priority in all public intervention agendas.

Decile 8 (also departments with a poor relative situation) comprises a group with more than five

million people. The presence of the state with active policies is also a number one priority in this case. Finally, groups 7 and 6 show some contradictions as they provide mixed results in the spatial distribution of LQI.

The Socioeconomic Dimension is composed of six UBN variables extracted from the last census conducted in 2010, except for infant mortality rate which is provided by the Ministry of Health.

- Education indicators
  A. Percentage of population aged 15 years or older that has dropped out of school or with an education level below elementary school.
  B. Percentage of population aged 15 years old or older who has not attended and/or graduated from university/college.
- Health indicators
  C. Infant mortality rate (the number of infant deaths under 1-year-old per 1000 live births).
  D. Percentage of population with health coverage or other forms of health insurance
- Housing and infrastructure indicators
  E. Percentage of overcrowded households (those where more than two people live per room)

14.4 Concluding Remarks

In one of his works, Pacione (2003) explains that QOL research is the study of the relationship between people and their environments, and that trying to understand the nature of the person–environment relationship is the quintessential geographical question that lies at the core of the sub-discipline of social geography (Andráško 2008). Geographers' major contribution to QOL research has been the introduction of a spatial dimension in their work based on objective territorial indicators. As professionals, geographers can contribute as policy-makers and advisers, as citizens, as managers, and as consciousness raisers, the goal of the quality of life policy is

especially pertinent to the personal idea of leaving the world a better place (Helburn 1982).

Considering these remarks, we developed and applied an LQI for Argentina in order to analyze its spatial disparities. Argentina has indicators that place it in a good relative position in the Ibero-American context. However, when internal differences are investigated at a department level, we see that Argentines residing in the north (Northeastern and Northwestern regions), especially outside the main cities, experience various hardships due to the socioeconomic and environmental conditions. On the contrary, in the south of the country, mainly in southern Patagonia, the best welfare conditions are registered, associated with various factors such as migratory dynamics, centrality and accessibility, generation of wealth and State intervention. In the center of the country, extreme social fragmentation (Metropolitan Region) is evidenced, a sort of center-periphery dichotomy (Pampean Region) and contradictions between dynamic irrigated areas (oases) and lethargic spaces with low population density (Cuyo Region) prevail.

This image of a "latitudinal" Argentina results, to a large extent, from the accommodation of the hegemonic sectors of each region throughout the different developmental stages of Argentina. Historically, the NOA was the most populated and developed region, but several historical processes linked to the agro-export model and import substitution have moved the center of gravity further south.

Finally, the elaboration of QOL maps using Geographic Information Systems has allowed the diffusion of geo-referenced data and facilitated the interpretation of quality of life information and the analysis of its spatial variability.

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Guillermo Ángel Velázquez Doctor in Social Sciences with orientation in geography from the University of Buenos Aires. Superior researcher of the National Council of Scientific and Technical Research. Director of the Institute of Geography, History and Social Sciences -National University of the Center of the Province of Buenos Aires and the National Council of Scientific and Technical Research. He has been a visiting professor at the universities of Alcalá and Complutense and Valladolid (Spain) and Lund (Sweden). His research focuses on the study of the spatial variability of quality of life in Argentina for the last thirty years through the development of several QOL indices.

Juan Pablo Celemín Doctor in Geography from the National University of the South, Argentina. Master in conservation and management of the natural environment (Universidad Internacional de Andalucía, Spain). Degree in Geography (National University of Mar del Plata, Argentina). Currently is adjunct researcher at the National Council of Scientific and Technical Research. He has been a visiting researcher at the Ministry of Environment (Ecuador) and at the University of Alcalá (Spain). His line of research focuses on the use of geographic information systems and remote sensing data for social and environmental analysis at urban, regional and national scales.