



5 HOW DO ECOSYSTEM SERVICES AFFECT HUMAN WELL-BEING AND WHO ARE THE BENEFICIARIES?

A multidimensional analysis of the quality of life in Spain

KEY FINDINGS

- The SNEA has shown, based on empirical data, that the different components of human wellbeing depend largely on the ability of ecosystems and its biodiversity to generate services for society.
- Changes in ecosystems always entail parallel changes in human wellbeing. Given the progressive degradation process that Spanish ecosystems are suffering, human wellbeing is negatively affected within Spanish society.
- While some aspects such as physical health, education and social freedoms have improved markedly in recent decades, other more intangible factors, such as good social relationships and mental health, have been negatively affected.
- There is traditionally confusion between standards of living and quality of life, which has had serious implications for the conservation of ecosystems. An increased quality of life should not have a negative impact on ecosystems. However, increases in the standards of living largely lie in increasing consumption behaviors, thus degrading the capacity to generate ecosystem services in Spain.
- The current prevailing urban lifestyle in Spain is causing us to forget the sense of community and dependence on ecosystems that characterized the Mediterranean lifestyle for centuries. It is necessary to promote healthy lifestyles closer to the multidimensional concept of human wellbeing, shifting from focusing on standards of living to quality of life, that is, aiming at a good life within the biophysical limits of ecosystems.

Human wellbeing has grown from a concept that was mostly addressed by philosophers, extending in recent years into the social, political and even public domains. The growing social

interest in this concept has begun to be incorporated into political agendas in initiatives that seek to explore alternative or complementary strategies to the GDP for assessing the social progress of the nations.

Since 2005, following from the Millennium Ecosystem Assessment, the initial concerns of the socio-ecological sciences related to the concept of human wellbeing and its link to the state of the conservation of ecosystems through their services has been globally accepted. The most important message of the MA is that human wellbeing depends directly and indirectly on ecosystems through their ability to generate different types of services for humanity. That is, it conceptualizes social systems as a subsystem of the biophysics sphere on which it depends (Figure 5.1).

However, the MA also provided two other conclusions of transcendental importance:

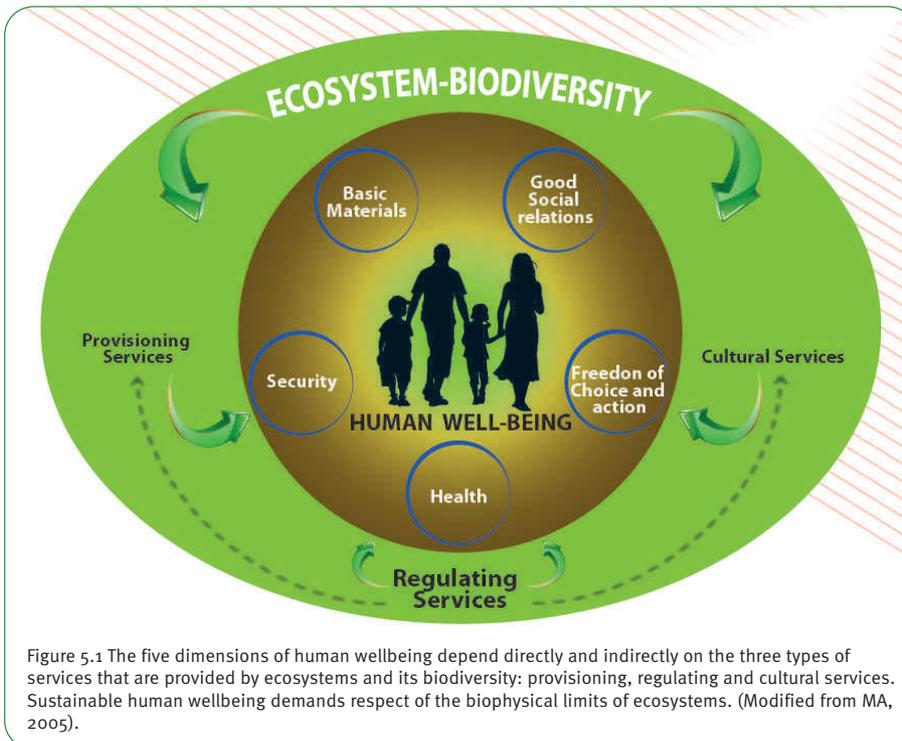


Figure 5.1 The five dimensions of human wellbeing depend directly and indirectly on the three types of services that are provided by ecosystems and its biodiversity: provisioning, regulating and cultural services. Sustainable human wellbeing demands respect of the biophysical limits of ecosystems. (Modified from MA, 2005).





1) Ecosystem services have suffered a process of degradation on a global scale in recent years.

2) Human wellbeing is increasing globally, primarily due to the intensification of provisioning services (e.g., food, fiber, fuel) required by humanity.

Based on the SNEA, we disagree with these conclusions of the MA because supporting them would mean accepting that global human wellbeing has increased at the expense of the degradation of ecosystems and loss of biodiversity. This conclusion fits popular perceptions and was defined by Raudsepp-Hearne et al. (2010) as the paradox of the environmentalist.

Based on this paradox, the SNEA evaluates human wellbeing differently than the MA. While the MA exclusively evaluates human wellbeing globally based on the Human Development Index (HDI), the SNEA performed a multidimensional analysis using 90 indicators for each of the five dimensions of human wellbeing identified by the MA (Figure 5.1). The answer to the paradox of the environmentalist, at least in part and from the viewpoint of SNEA, therefore lies in the confusion that exists between the concepts of standards of living and quality of life (Figure 5.2). In assessing human wellbeing through the HDI, what the MA is really measuring is not quality of life but standards of living through an economic approach incorporating economic bias into the GDP. Alternative measures of human wellbeing, other than the HDI, that counteract the economic bias involved in including the GDP, moving towards quality of life index,

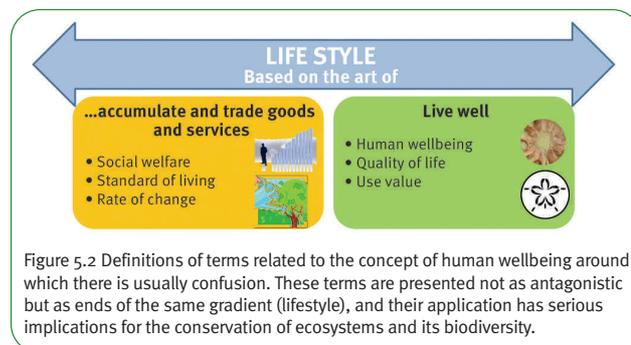


Figure 5.2 Definitions of terms related to the concept of human wellbeing around which there is usually confusion. These terms are presented not as antagonistic but as ends of the same gradient (lifestyle), and their application has serious implications for the conservation of ecosystems and its biodiversity.

should result in a decline of this measurement and the revelation of a parallel trend between ecosystem services and human wellbeing indicators.

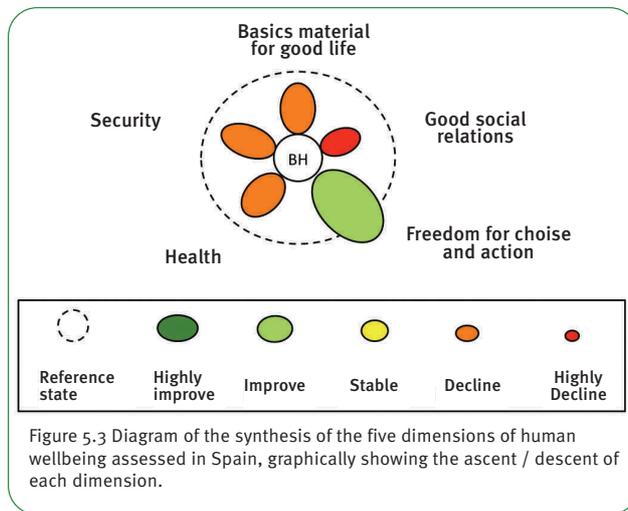
Indicators selected to independently analyze the five dimensions of human wellbeing (i.e., basic materials for a good life, health, good social relationships, security and freedom of choice and action) show different trends during their temporal evolution (Figure 5.3). Regarding the basic materials required for a good life (such as access to food, water and a home), the trends of the indicators show that they have all experienced a significant increase in recent years in Spain, especially after the economic crisis of 2008, which allows us to detect a decrease in this dimension. This is the case for indicators such as the unemployment rate, the rate of poverty risk, the price of housing relative to the average income, and the rate of evictions.



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The indicators used to assess the health dimension show two different trends. While the indicators of physical health (e.g., life expectancy and infant mortality) have constantly increased, indicators of healthy habits (such as the rate of reported cases of cholesterol, diabetes, hypertension, allergies and obesity) and mental health (such as the number of suicides and the number of psychological treatments) have shown negative trends. Together, these findings suggest that while our life expectancy is increasing, the quality of life has not necessarily improved during these years, either physically or psychologically. Meanwhile, the indicators used to evaluate social relationships show a clear erosion of this dimension of human wellbeing. Indicators such as separation and divorce, complaints of family abuse or the percentage of people living alone have constantly increased, while indicators such as the availability of free time and time for relationships and a social life has suffered serious declines. The security dimension has also suffered negative development in recent decades, examples of which are found in indicators related to public safety (e.g., the number of homicides) or deaths from global natural disasters, whose tendencies have adversely affected human wellbeing.



Finally, freedom of action and choice (despite the complexity of their evaluation) are most likely the only dimensions of human wellbeing that have made good progress in recent years in Spain. This reflects the growing trends of indicators of gender parity, education and civil liberties (Figure 5.3).

Table 5.1 Synthesis of human wellbeing trends assessed in Spain

DIMENSIONS	SUB-DIMENSIONS	Indicators	Trends	
			Sub-dimension	Dimension
I. BASICS MATERIAL FOR GOOD LIFE		Poberty rates	↓	↓
II. FREEDOM FOR CHOISE AND ACTION	Civil freedoms	Civil freedoms index	↑	↑
	Education	% Illiteracy	↑	
	Gender	% of women in congress	↑	
	Economic equaty	Unequal wealth distribution across households	↓	
	Freedom from time	% Hours of holidays	↓	

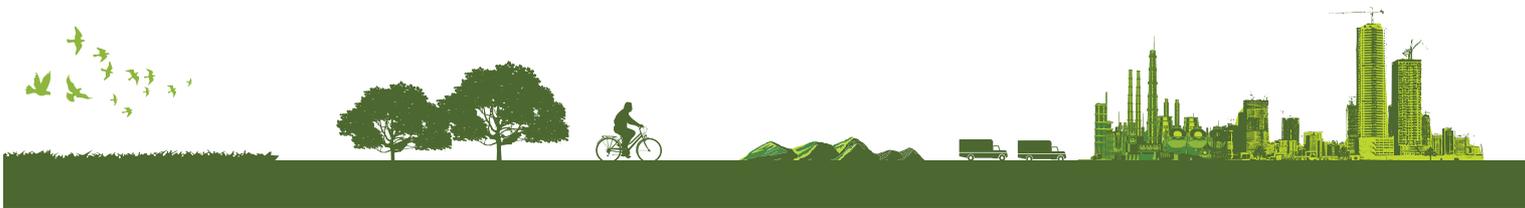




Table 5.1. Synthesis of human wellbeing trends assessed in Spain

DIMENSIONS	SUB-DIMENSIONS	Indicators	Trends	
			Sub-dimension	Dimension
III. HEALTH	Life expectancy	Life expectancy	↑	↓
	Morbidity and healthy habits	Obese population	↓	
	Mental health	Hypnosedatives treatment	↓	
IV. GOOD SOCIAL RELATIONS		TV consumption, Divorce	↓	↓
V. SECURITY	Material	House prices on average income	↓	↓
	Health	Number of doctors per 100.000 inhabitants	↑	
	Citizen	Deaths from homicide	↓	
	Vial	Number of traffic deaths	↑	
	Social protections	Social security affiliations	↑	
	Political	Untrust in political parties	↓	
	Familiar	Home violence complaints	↓	
	Existential	Maternity age	↓	
	Global changes	Natural hazards	↓	





The standard of living in Spain has continued to increase year after year under a system that has supported economic growth and material consumption as an end in itself. A good example of this is our ecological footprint, which has doubled since the 1960s, reaching 5.4 global hectares per capita. This means that every Spanish citizen exhibits an ecological deficit equivalent to 3.8 hectares (because Spain exhibits a biocapacity of only 1.6 global hectares per capita), which means that Spain would currently need approximately 3.5 times its current area to meet the consumption demands of its population.

That the standard of living in Spain has increased considerably in recent decades is no surprise. However, human wellbeing in Spain, unlike what was observed in the global MA, appears to have undergone a process of deterioration in recent decades, as among its five dimensions, only one appears to have improved: freedom of action and choice. This indicates that the progressive ecosystem degradation occurring in Spain (45% of Spanish ecosystem services have been degraded or used unsustainably in recent decades) is associated with a parallel deterioration of human wellbeing, as the two entities (human wellbeing and ecosystems) are in constant dynamic interaction.

According to the results of the analysis of human wellbeing based on the SNEA, the endless promotion of economic growth and material consumption as an end in itself is detrimental to human wellbeing because while it tends to increase the standard of living and material aspects more closely related to the economic sphere, it seriously erodes more non-material dimensions, such as healthy habits or good social relationships.

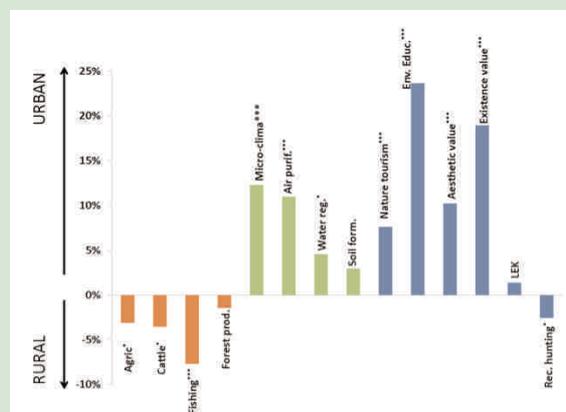
In this context, it appears that an individualistic lifestyle is arising in Spain, in which people are sedentary and isolated, supported by a social organization that revolves around cities, causing us to forget the sense of community life and dependence on ecosystems that for centuries have characterized the Mediterranean lifestyle.

The decision of where to we choose to live our lives in the coming years within the wide range between focusing on the standard of living and quality of life (Figure 5.2) will determine the future socio-ecological situation in Spain. The alternative to the current unsustainable economic model largely depends on our ability as a society to shift our lifestyle toward focusing on our quality of life, that is, the ability to adapt the Spanish population to a type of human being who is ecologically sustainable and socially equitable, resulting in a good life within the biophysical limits of ecosystems.

Box 5.1 Exploring the diversity of viewpoints regarding wellbeing based on the cultural value of ecosystem services.

The diversity of social preferences towards ecosystem services in Spain demonstrates the different perspectives and viewpoints of stakeholders perceiving human wellbeing. A scientific study examining eight different case study sites representing various ecosystems (i.e., mountains, forests, wetlands, rivers and streams, coastal systems, semi-arid systems, agroecosystems, and urban areas) showed that the importance of ecosystem services for human wellbeing is perceived differently by stakeholders depending on specific socio-cultural factors, such as their formal education, environmental behavior, gender or the place of residence (i.e., rural or urban areas).

However, the social factor most strongly influencing preferences towards ecosystem services and the understanding of human wellbeing is the place of residence, which can be summarized as a rural-urban gradient. This study found that while rural people relate their wellbeing to provisioning services (e.g., food obtained from agriculture, cattle rearing, and fishing) as well as recreational hunting, urban people relate it to regulation of the micro-climate and air purification as well as specific cultural services (i.e., environmental education, existence value, aesthetic value, and nature tourism). In fact, the different social means of understanding the importance of ecosystem services for human wellbeing could be the cause of the common trade-off between provisioning services (and recreational hunting) versus regulating services and almost all cultural services. More specifically, this study found that the maintenance of specific regulating services is strongly linked to the preservation of the rural population's local ecological knowledge (LEK). Consequently, the wellbeing of the urban population strongly depends on the maintenance of the LEK of rural communities, associated with soil and water management.



Significance at * $p \leq 0.10$; ** $p \leq 0.05$; and *** $p \leq 0.01$.
Source: Martín-López et al. (2012)

