

# ENVIRONMENT

## 1. Basic concepts

An environment which is in a vital and healthy state constitutes a prerequisite to ensure authentic well-being for all components of society. To have unpolluted water, clean air and uncontaminated food we need a pristine environmental context, where the dimension of naturalness is able to integrate itself with productive and social human activities. Our societies should learn to live within the boundaries of a single Planet. The availability and use of natural assets and services require a special effort to maintain and preserve the natural heritage in our economic systems. These aspects constitute the basis for the supply of goods and services, which are essential to human well-being, as confirmed by important international studies and a rich scientific literature (see the reports produced by the Millennium Ecosystem Assessment, [www.maweb.org](http://www.maweb.org), and by the Economics of Ecosystems and Biodiversity, [www.teebweb.org](http://www.teebweb.org)). In addition, emphasizing the importance of the environmental resources allows the whole society to profit from the tangible and intangible goods produced and released by the Nature , thus contributing to reduce inequalities in our society.

## 2. Dimensions considered to represent the domain

The variables/parameters we identified to describe the environmental contribution to the collective well-being are:

1. Water quality. The quality of water is a fundamental aspect that directly affects human well-being and health.
2. Air quality. The quality of air has potential consequences on the state of environment and human health and consequently on people well-being.
3. Quality of soil and territory. Soil has a primary role in water and waste management, air pollution control, and has direct effects on flooding and landslides. The quality of natural soils, and their "erosion", and the environmental quality of the areas where people live are crucial for human well-being.
4. Biodiversity. The ecological services guaranteed by biodiversity in marine and terrestrial environments are an essential basis for production of resources, air and water purification, and for the maintenance of natural capital, the access to which directly impacts on people well-being. Biodiversity preservation is crucial for a sustainable development and is threatened by changes occurring on a planetary scale, associated to climate change and to the present models of production and expenditure.
5. Subjective evaluation of quality of natural environment. The well-being of people connected with quality of natural environment has consequences on the perception that citizens have about environmental conditions.
6. Material, energy and climate change. The environmental issues associated with the use and consumption of material, energy and emissions of climate-altering gases have great relevance for sustainable development; this dimension detects both the shortage of natural resources and the potential of quality degradation of natural environment due to the use of traditional sources of energy, firstly related with greenhouse gas emissions.

### 3. List of the best indicators

- 1. Drinkable water: *Volume of drinkable 1 water supplied every day per capita***  
The water supplied is the amount of water for drinking purposes actually consumed by the users. More precisely is the amount of water for drinking purposes measured by counters in each household plus the estimated use for drinking purposes by other users (e.g. schools, hospitals, barracks) plus other non-drinking uses (water street cleaning, watering of public parks, fire hydrants, etc.). Availability of water of good quality has a significant impact on the overall well-being. The indicator, measuring the use of drinking water by the community, should be considered as a good proxy of quality of water.
- 2. Quality of marine coastal waters: *Percentage of bathing marine coastal waters on total coasts.***  
The bathing marine coastal waters is clear indicator of the overall quality of the marine environment and the possibility of use of this asset.
- 3. Quality of urban air: *Number of days during which the level of PM10 exceeds the limit of 50 µg/m<sup>3</sup>.***  
It is an important and synthetic information of the alteration of air quality with potential consequences for human health and, in general, is an indicator of the overall state of the quality of the air we breathe.
- 4. Urban green: *Square meters of urban parks and gardens per inhabitants***  
It provides a synthetic information of the quality of the urban ecosystem and the potential benefits to urban biodiversity with regard to epidemiological problems and climate issues at the local level. It gives information on the well-being generated by the use of a more natural urban environment.
- 5. Areas with hydrogeological risks: *Percentage of areas subject to landslide on total surface***  
This is a sensitive issue at national level and it is crucial for an assessment of environmental vulnerability to extreme events. The proxy indicator currently available is the index of landslides.
- 6. Contaminated sites: *Number and size of contaminated sites***  
It is a crucial element of environmental quality for the strong implications that contaminated sites have on biological and ecological risk and the use of the environment.
- 7. Terrestrial parks: *Share of the size of terrestrial parks on total surface***
- 8. Marine protected areas: *Extension of marine protected areas on total coastal area***
- 9. Areas of special naturalistic interest: *Share of areas of special naturalistic interest of total surface***  
These three indicators highlight key elements of biodiversity conservation and the natural landscape. They are build according to a proven international evaluation system of the quality of the environment and conservation of natural capital and they give an indication of areas of high natural value that contribute to the quality and value of natural ecosystems.
- 10. Concern for biodiversity loss: *Percentage of people aged 14 and over who believe that biodiversity loss is among the five most important environmental problems***  
It specifies the individual's perception regarding the quality of the natural environment by referring to a theme - biodiversity - that is at the heart of the international debate on the risks that the changes taking place on a global scale related to the current patterns of production and consumption pose to ecological sustainability.
- 11. Material flows: *Quantity of materials, transformed in emissions, waste or new stocks, limited to internal material consumption***  
The use of raw material for the production of goods and services plays a key role in the perspective of an environmentally sustainable development in view of limited natural resources and the consequences of their systemic transformation and return to the natural environment.

12. Energy from renewable sources: Share of energy consumptions provided by renewable sources on total internal consumptions

It provides short guidelines relevant both in terms of sustainable development and in relation to the issue of degradation of the natural environment which is determined by the use of traditional sources of energy mainly through the emissions of greenhouse gases.

13. Emissions of CO<sub>2</sub> and other greenhouse gasses: Tons of CO<sub>2</sub> equivalent per capita

This information makes explicit the role that these emissions have on global climate change and provides clear indication of the human contribution to the production of climate-altering gasses.