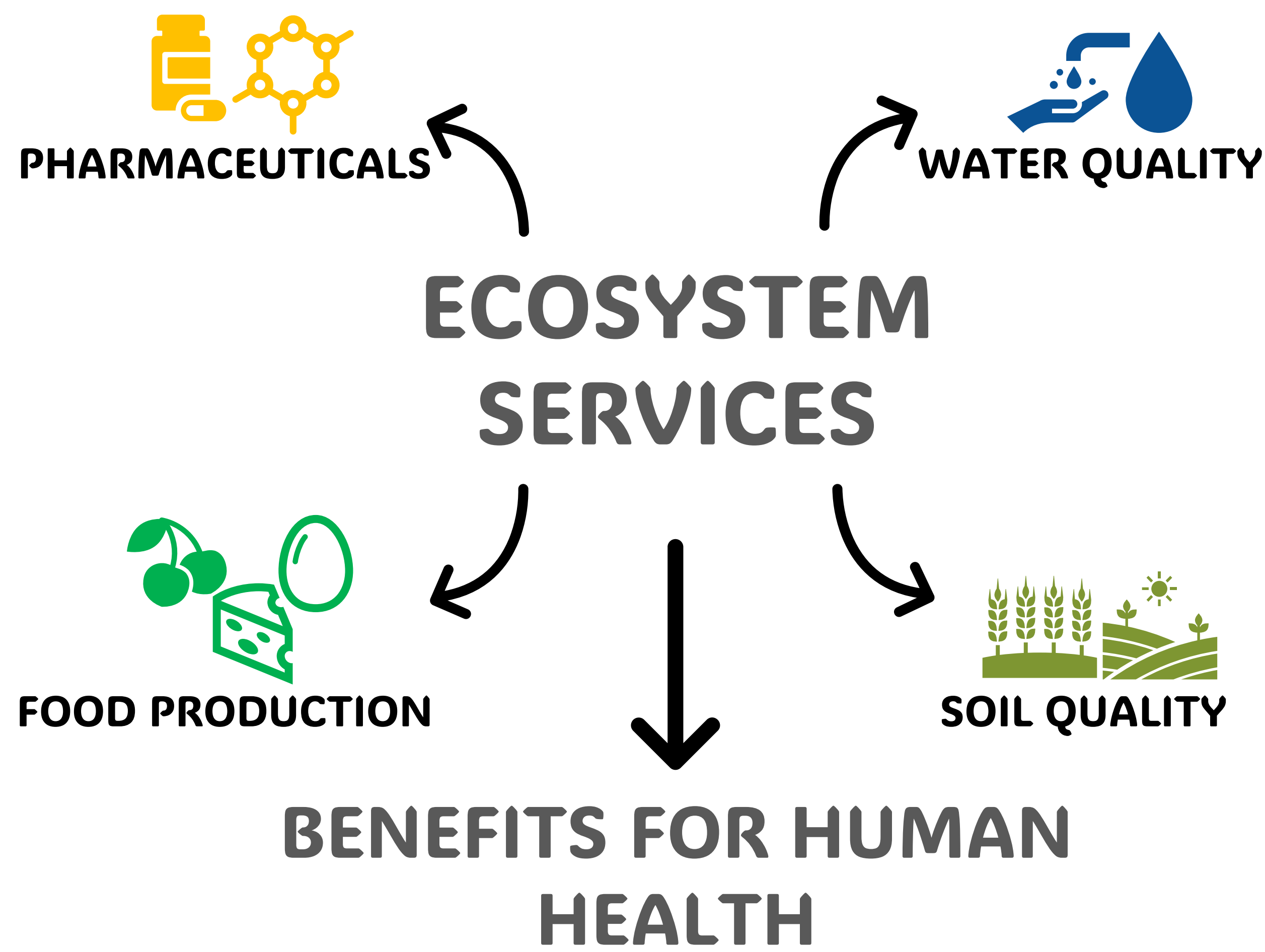


# An Overview of the Link Between Biodiversity and Human Health

Kevin di Domenico<sup>a</sup>, Mario Carere<sup>a</sup>, Walter Cristiano<sup>a</sup>, Laura Mancini<sup>a</sup>

<sup>a</sup> Italian Institute of Health, Ecosystem and Health Unit, viale Regina Elena 299, Rome, Italy



Biodiversity is a key component of natural **ecosystems** and plays a crucial role in the provision of **ecosystem services**.

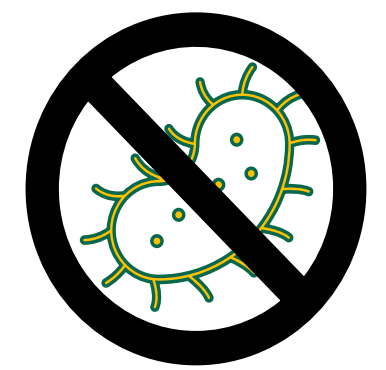
Such services, closely related to human well-being include:

**Food production** - ecosystems provide food resources for many people worldwide, and pollination is itself an essential service;

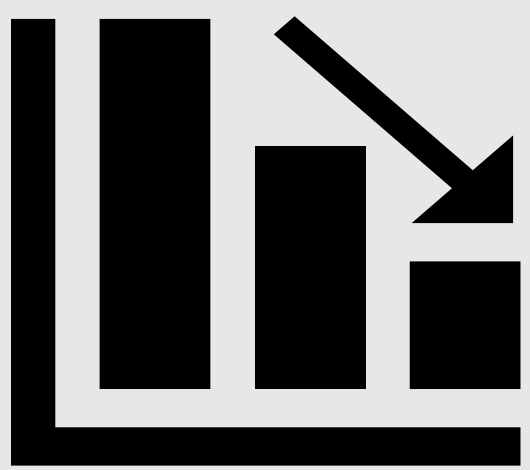
**Medicine** - animal and plant species act as a source of new compounds;

**Clean water** - biodiversity act as a natural filter for water pollutants;

**Clean soil** - biodiversity provides protection from pathogens and act in organic matter decomposition.



The ongoing decline in biodiversity cause a loss of materials for new medicines, a shortage of food resources, and a deterioration of water and soil quality. The main **drivers of biodiversity loss** are habitat degradation and climate change, both of which are linked to anthropogenic pressures such as pollution, overexploitation of natural resources, and the introduction of exotic invasive species.



- In 2002, at the Convention on Biological Diversity an effort was made to reduce biodiversity loss within 2010, but the expected results were not achieved.
- In 2010, in Nagoya an updated plan was drafted to be implemented between 2011 and 2020. This plan includes the Aichi Biodiversity Targets, but to date none of them has been fully achieved.
- Recently, good results have been obtained through methods like captive breeding, the reintroduction of endangered species and the fight against exotic species.

Despite the effort on a global level, the actual trend is unlikely to change in the near future, potentially compromising the functionality of many vital elements for human survival. Numerous gaps still need to be addressed in science and policies to guarantee that the ecosystems continue to provide all the services necessary to support the human population.