

Sustainability will be systemic or it will not be



Tomás Loewy

"Education can be part of the problem if we do not change, but it can also be part of the solution, as long as we can build new conceptual, ethical and cultural frameworks in the citizens of the future"

Maria Novo, 2006

Note: In English, there is only one term, “sustainability”, for the Spanish words “sostenibilidad” and “sustentabilidad”, which have two different meanings. Here we make a difference and promote one of them. It would be interesting to know if the most appropriate concept, with an ecological sense, is used throughout the world.

The sustainability criterion is affected by two shortcomings of use: many keep the term "sustainability" as an analogous one and it is usually applied in a fragmented way. What worries us is that this happens both in commercial and scientific fields.

Although the word that we promote and that concerns us is "sustainability", it is usually expressed by adjectives like environmental, social or economic: that is to say, divided into three. For this reason, simply adopting the appropriate term is not enough: we must always add the attribute of integrality, which makes it operational.

Based on a study by Laura Bertha Reyes-Sánchez (2012)¹, this article analyzes the difference between the two words that are used. Then, the different conceptions and perceptions taken as valid and effective are reviewed.

¹ President of the *International Union of Soil Sciences (IUSS)* in 2019-2024. This was a historical fact, as she was the first latin american woman in taking this position.

In Spanish: ¿«Sustentabilidad» or «Sostenibilidad»?

The aforementioned work shows a meridian precision in its concepts and arguments. The first difference consists in separating growth from development. In this regard, she explains that, several decades ago, French academics argued that "one can only speak of development if the fundamental needs of society are met, including education, cultural and spiritual needs, and not only economic ones" (Lebret, 1959; Perroux, 1963). This presupposes fully incorporating people, in the conceptual basis.

The English meaning "sustainability", with which most official UN documents are published, means *sostenible* in Spanish and not *sustentable*. What follows are some textual sections of an article by Reyes, beginning with an adaptation of a guide taken from the dictionary of *Real Academia Española* [Royal Spanish Academy] (Table 1):

| Table 1. Dictionary of the Royal Spanish Academy (RAE) | |
|--|---|
| Word | Meaning |
| Sostener [To hold] | To hold something steady, keep it in the middle or in one place without falling or doing it very slowly. |
| Sustentar [To sustain] | To provide someone with the necessary food; to preserve something in its state. |
| Sostenible [Sustainable] | Said of a process: That can be held by itself, as it does, for example, an economic development, without foreign aid nor reduction of existing resources. |
| Sustentable [Sustainable] | That can be sustained or defended with reasons. |
| Sostenibilidad [Sustainability] | Quality of sustainable (<i>sostenible</i>) |
| Sustentabilidad [Sustainability] | Quality of sustainable (<i>sustentable</i>) |

Source: Adapted from Reyes Sánchez (2012).

She literally claims the following:

Sustainable [*Sostenible*] refers to the internal aspect of the structure of the system in question, which can remain firmly established, settled, fixed, unalterable, immovable, sustaining the system thanks to the firmness of its internal structure and based on it.

Sustainable [*Sustentable*] is the supra or superstructural part of that same system, which has to be fed, providing it with survival and persistence means, so

that it can extend its action, not only in its scope (space) but also throughout time. It is fed from the resources of other systems to grow at the expense of their obvious deterioration, from which it imports the energy necessary to sustain itself (Reyes Sánchez, 2012; p. 224)

In both meanings, *the system* is adopted as a natural environment, but it differs in its autonomy and/or energy dependence. In practice, she concludes that what is sustainable [sustentable] assimilates to growth or development, with exogenous contributions and without considering negative social or environmental impacts. The author does not exclude a thermodynamic foundation for the two meanings and includes nine principles of sustainability [sostenibilidad] as well (Table 2).

Translator's note: From now on, "sustainability" refers to *sostenibilidad* in Spanish.

| | |
|--|---------------------------|
| 1. Limits to growth that nature imposes on us. | |
| 2. Of caution. | 3. Of uncertainty |
| 4. Of incompleteness. | 5. Of integration |
| 6. Of interdependence. | 7. Of transdisciplinarity |
| 8. Of articulation. | 9. Of social equity. |

Source: Adapted from Reyes-Sánchez (2012)

In this way, the sustainable (sostenible) is consistent with the integral development of a territory and shows all the limitations, relationships and inherent potentialities.

¿Strong or weak sustainability?

Without discussing or opening a definitive value judgment, a brief clarification regarding these two transcendent approaches is pertinent. We start from the basis that sustainability is a criterion that demands transdisciplinary, systemic and holistic tools, since these can address all the complexities of the society-nature relationship.

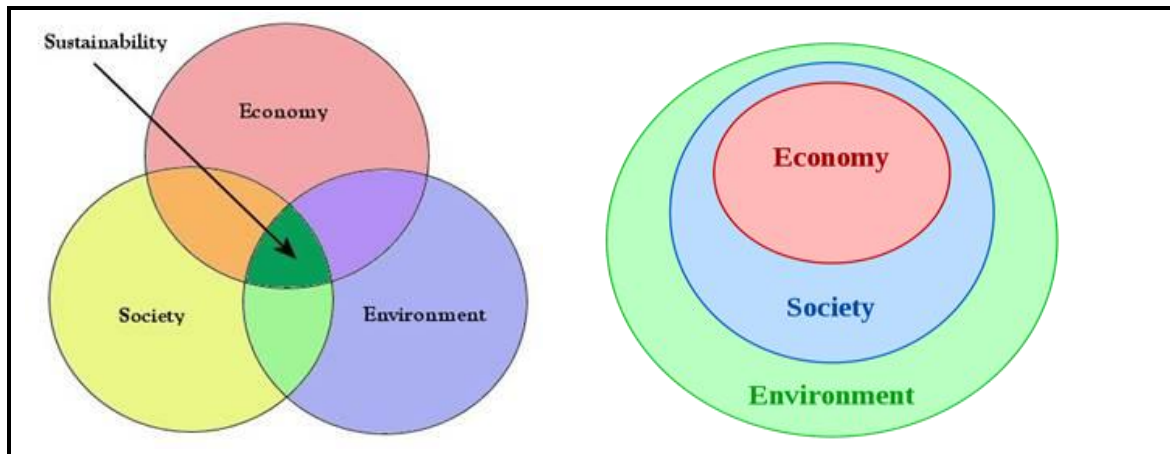
Ecological economics has adopted this relationship, in terms of *social metabolism*, as a method of general analysis of development. That discipline also considers the economy as a system located within the biosphere and dependent on it.

Weak sustainability equates economic terms with social and environmental ones, and thus establishes —in fact— an anthropocentric view of development. It admits a degree of (technical) substitution of the common goods to keep the three-dimensional balance.

Strong sustainability privileges life, in terms of biodiversity, as an ecosystem power. Anthropocentrism is transformed into biocentrism, as can be seen, respectively, in the diagrams of figure 1.

Figure 1

Weak (left) and strong (right) sustainability diagrams



Source: Pinterest

Comprehensive and operational sustainability

The view of sustainability as something comprehensive and not parceled out is a key premise. Precisely, the power of its operation lies in keeping all its components in simultaneous and synergized action. This can only be achieved through its application in a minimal entity that is none other than a system. In the agricultural field, this entity is the productive unit, including the human factor.

The fragmentation in its components (economic, social and environmental, institutional, cultural or political) transforms the tool into something almost innocuous. This is so since any fraction can cover up or ignore the non-validity or insufficiency of the rest. Only the simultaneous expression of all of them guarantees the effectiveness of the method.

In turn, the atomization of parts of the system (crops, technologies, soils, supplies, etc.) does not exceed a rhetorical or irremediably partial content. The corollary of this approach is that sustainability is only one, and only then it is essential for the maintenance of life (Loewy, 2021).

Systemic sustainability – character multiscale and social role

The big corporations set up the “divide and rule” criterion, but it is a non-delegable task of the science and a citizen’s responsibility to prevent this virtual emptying of the *signifier*; in particular, at this crucial stage of post-pandemic development and based on the Sustainable Development Goals (SDG) and the Paris Treaty on climate change.

The most relevant cause of non-systemic sustainability is the underestimation of the social component (intra and intergenerational equity). The rigor of this factor literally protects a paradigm of transformation that clearly cannot be postponed. A summary of

a civil society in which its members exercise their individual and collective potential should bring a set of ethical values together.

This can be outlined on the basis of a philosophy called *ikigai*², which tries to put together individual happiness with a purpose in life. In this case, it is also about four overlapping components in pairs, whose optimum is the intersection of all of them (Figure 2).

Figure 2. Schemes of integrated values in the *ikigai* model



Finally, sustainability must be multi-scale: it is necessary to maintain coherence at the local, regional, national, and global levels, because the world is only one and it is our common home. An essential ingredient to exercise these vital tools is the promotion of empowered *planetary citizens*, among other resources, through an *environmental and civic education* at all training levels.

Giovanna Imperatori

EN<>ES Translator
Traductora Pública de Inglés
M: +54 9 341 2275993
E: imperatorigiovanna@gmail.com



² The word *Ikigai* is a Japanese term meaning *iki* (life) and *gai* (merit). It is a Japanese philosophy exercised particularly on the island of Okinawa and taken as an example of happiness and human longevity (Daniel López Rosetti, 2021)

References

- Lebret, L. J.**, (1959). *Manifeste pour une civilisation solidaire*. Éditions Économie et Humanisme.
- Loewy, T.** (2021). El enfoque sistémico, como criterio operativo y geográfico: la sostenibilidad agrícola. *Revista Estudios Económicos (UNS)*: 38(77), pp. 83-98.
<https://revistas.uns.edu.ar/ee/article/view/2300/1515>
- Novo, M.** (2006) El desarrollo sostenible. Su dimensión ambiental y educativa. UNESCO: Pearson Educación S.A., Madrid, 431 p., Reseña (Antonio Elizalde) *Polis* [En línea], 16 | 2007,. URL: <http://journals.openedition.org/polis/4788>
- Novo, M. y Murga, M. A.** (2010). Educación ambiental y ciudadanía planetaria. *Rev. Eureka sobre Enseñanza y Divulgación de la Ciencia*, 7, pp. 179-186. Disponible en: <https://www.redalyc.org/pdf/920/92013009003.pdf>
- Perroux, F.** (1963). L'économie des États-Unis: un «leadership» difficile. *Tiers Monde*, 4(370), 539-557.
- Reyes-Sánchez, L. B.** (2012). Aporte de la química verde a la construcción de una ciencia socialmente responsable. *SciELO Educación química*, 23(2).
http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S0187-893X2012000200009
- Lopez Rosetti, D.**(2021). IKIGAI, tu razón de ser. Recuperado el 08 de mayo
<https://www.youtube.com/watch?v=WbV2JTSNbHQ>