



Transformation

Refers to intentional or unintentional changes of the structure and operation of any system. In the field of social-ecological systems, transformation is usually linked to changes that ensure the sustainability of life on the planet and the development of human societies. These changes include multiple dimensions: care and management of ecosystems, consumption patterns, associated governance systems, beliefs and value systems.



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Transformation is defined as the ability to create a new system when the existing ecological, economic and social structures of a system are unsustainable or unviable to maintain objectives, goods or services that are considered essential.

In the field of social-ecological systems, intentional transformations are designed from a desired trajectory or one deemed as beneficial. The desired configurations may correspond to a historical reference (observed in the past) or a new configuration agreed upon and made explicit.

In fact, resilience is the joint analysis of adaptation and transformation abilities. It is a positive or negative attribute, depending on whether the current configuration of the social-ecological system is considered favorable or unfavorable. For instance, in extreme poverty reduction programs we must



Key references

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overcome multiple feedback mechanisms that affect a resilience that we seek to overcome in the transformation process. In the opposite sense, when controlling the overload of cattle and sheep per hectare in the natural grasslands of the pampas in South America, we intend to maximize the adaptability and resilience of the productive system to extreme drought events, avoiding loss of resources and producers. In this last example we try to ensure the persistence of a productive system.

The need for multiple transformations identified and promoted by the scientific world is linked to the interactions between humans and the biosphere, from a local to a global scale, which are trapped in unsustainable paths. On the one hand, there are contradictions between environmental governance and the dynamics of ecosystems, affecting them, sometimes irreversibly. On the other, the separation between human and natural systems reduces the latter to mere suppliers, consequently degrading and eroding the resilience of systems which are essential for life on the planet. As a result, there is growing interest in reconnecting with the biosphere. This implies taking the limits of the planet in account and considering the human being as part of the biosphere and the key responsible for maintaining its integrity over time.

To address this challenge, the required transformations must take place simultaneously, covering different areas such as technology, economics, social organization, institutions, demography, information and also the ideological domain. In other words, they must include multiple levels, phases and processes across several scales.

Finally, the transformation also includes people and their social behavior that must overcome the individualistic view as a consumer and assume responsibility as a citizen of an interconnected planet. Understanding how ecosystems work, collaborative learning and public interest are components of this process.

Other suggested readings

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