

TOWARDS DEFINING A REGENERATIVE ECONOMY

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We are rapidly approaching the point of no return as we surpass the current limits of planetary systems and boundaries through human activities.¹ As we are nearing potentially irreversible tipping points in our socio-ecological systems (SES), there is a greater need for going beyond limiting harm and moving towards repairing the harm done and creating positive outcomes for both nature and society.

The *regenerative economy* has become of recent interest to businesses focused on sustainability initiatives. In sustainability research, academics have begun to use concepts of restoration and regeneration and connecting them to sustainability, business, and economics.^{2,3,4} Despite the recent growth in interest in regenerative economy, there is no clear definition of it. Based on a systematic literature review, there is a wide range of terms and definitions for regeneration and restoration and other related terms, such as regenerative business, regenerative sustainability, restorative business, and more. Notably absent is a definition of regenerative economy and an overview of its core concepts.

This brief is aimed at discussing regeneration and restoration. We explore some of the core concepts related to

regeneration and restoration, and we offer a definition of *regenerative economy*.

Core concepts relating to regeneration and restoration

Social science researchers discuss both regeneration and restoration, while others focus on one concept over the other. Interestingly, some work equates restoration and regeneration, but they are not exactly the same. For example, Merriam Webster defines *regeneration*⁵ as “to become formed again” and *restoration*⁶ as “to bring back to or put back into a former or original state.” The definitions are similar enough that the concepts are often used interchangeably by both practitioners and researchers.^{7,3} Creating further confusion, many discussions around regeneration include restoration as an important component.

There is also some debate about what regeneration should focus on: *ecological*, *social*, or *economic* systems. About half of the time there is a primary focus on ecological regeneration, rather than social or economic regeneration. The other half of the time, the discussion includes all three. Much of the academic research in this area highlights that ecological restoration and regeneration requires significant *transformational change*—economically, societally, and organizationally.^{7,8,9,10} *Transformation* is a “the process by which a system reorganizes itself with entirely new components, functions, structures, and processes.”¹¹ Further, some research highlights the compatibility of regeneration with Sustainable Development Goals (SDGs)⁷, while others take the perspective that SDGs are not sufficient, and regeneration goes beyond the SDGs.¹²

The first discussion that closely relates to a regenerative economy is Hawken’s¹³ exploration of a *restorative economy*. He outlines three components of a restorative economy which includes:

1. “Obey the waste-equals-food principle and entirely eliminate waste from our industrial production,”¹³
2. Change the basis for fueling the economy (i.e., move away from fossil fuels);
3. Promote mechanisms for change through feedback and accountability.

While an initial foundation, these components are limited and do not encompass many factors that more current definitions of restoration include, such as systems thinking, resilience, and rebuilding natural systems. These components are instead more closely tied to traditional conceptualizations of sustainability.¹²

More recently, Hahn and Tampe¹⁴ focus specifically on the role of business in

regeneration. This organizational focus has many distinct differences from initial work by Hawken.¹³ Hahn and Tampe¹⁴ outline three criteria relating businesses to SES:

1. The impact of business on SES;
2. The spectrum of how attached business is to SES (from completely detached to coexisting and coevolving together);
3. Why businesses interact with SES (from securing ecosystem services to mutual co-benefits between the two).

This conceptualization of regeneration focuses specifically on the interrelation between business and SES.

Over time, discussion of regeneration and restoration has evolved past traditional conceptualizations of sustainability that focus primarily on reducing harm or achieving “net-zero”. Most commonly, discussions of regeneration highlight that is a dynamic process that requires a systems approach. The ultimate goal focuses on renewal and *positive* outcomes both within a system and across systems.

Regenerative economy: Definition and core concepts

We aim to bring together these many concepts to define a *regenerative economy*. Based on prior academic research, the core components of regenerative economy include the following (see Figure 1):

- Forming again, renewal, net positive impact;
- Regeneration including restoration and preservation;
- Systems thinking and a holistic approach (i.e., dynamic, nonlinear, multilevel, etc.);
- Ecological, economic, and social components;

- The need for transformational change across all levels (society, organization, individual).



Figure 1. Key components of regenerative economy

Based on the outlined core concepts, we propose the following comprehensive definition:

A regenerative economy is a holistic, dynamic system that fosters renewal, restoration, preservation, and net positive impacts across ecological, economic, and social systems, necessitating transformational change within and across individuals, organizations, and societies.

Drawing on our proposed definition, we offer a visualization of regenerative economy in Figure 2.

Further, we also provide a simplified definition for practice:

A regenerative economy renews ecological, societal, and economic systems for a net positive impact.

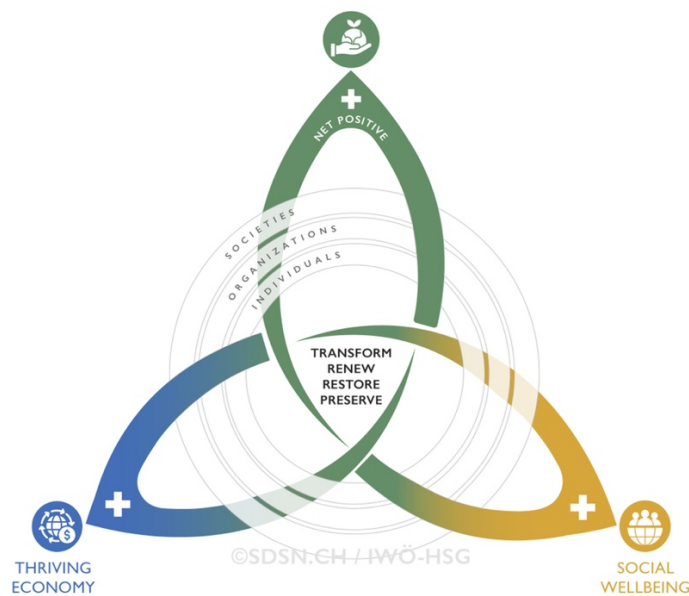


Figure 2. Defining a regenerative economy

Towards a future of regeneration

There are several areas related to sustainability, including but not limited to Environmental-Social-Governance (ESG) metrics, corporate social responsibility (CSR), and circular economy. Each of these

areas have their own foundational roots with differing core perspectives. In some aspects, a regenerative economy has similarities with each of these. In other aspects, there are some clear differences. Table 1 details each area, a definition, and its core perspective.

Area	Definition	Core perspective
<i>Regenerative economy</i>	A holistic, dynamic system that fosters renewal, restoration, preservation, and net positive impacts across ecological, economic, and social systems, necessitating transformational change within and across individuals, organizations and societies.	Net positive outcomes
<i>Sustainability</i>	“The balanced and systemic integration of intra and intergenerational economic, social, and environmental performance.” ¹⁵	Embeddedness
<i>ESG</i>	Practices that consider environmental, social, and governance issues and outcomes. ¹⁶	Risk reduction and aversion
<i>CSR</i>	“The responsibility of enterprises for their impacts on society.” ¹⁷	Ethical treatment of stakeholders
<i>Circular economy</i>	“A regenerative system in which resource input and waste, emission, and energy leakage are minimized by slowing, closing, and narrowing material and energy loops. This can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, and recycling.” ¹⁵	Closing loops

Table 1. Comparing regenerative economy

METHODOLOGY

Approach

We conducted a systematic literature review for relevant research on regenerative economy. We relied on a database-driven approach with clear inclusion and exclusion criteria.^{18,19} We searched for the articles in our review in the Web of Science Social Sciences Citation Index on September 7, 2023.

Inclusion and exclusion criteria

First, we identified our inclusion criteria. We searched with Boolean logic in the title or abstract of the paper for the following terms: regenerative economy, restorative economy, regenerative business, or restorative business. We had no restrictions on the journal or years of publication. This search process yielded 39 results. Since sustainability research often is not explicitly discussed in the titles or abstracts of social science research (especially in business research)^{20,21}, we also manually searched for additional articles to include in our sample to ensure completeness. This process resulted in an additional 9 articles, resulting in 48 articles. We also read through the top cited articles in

our sample to identify key literature that was commonly cited when discussing regeneration and restoration. This process resulted in an additional 2 articles and 1 book, resulting in 50 articles and 1 book.

Second, we identified our exclusion criteria. We dropped any items that were not in English or any items that were book reviews, conference proceedings, or other literature reviews. This resulted in 7 dropped articles. We then read through the title, abstracts, and keywords of each article and dropped any articles that were not relevant to this review.²² For example, some articles mentioned regeneration or restoration in the abstract but did not discuss in the rest of the article. Other articles focused on topics outside of the scope of this review, such as regenerative medicine or chemical engineering. This resulted in 25 dropped articles and a total sample of 18 articles and 1 book. Finally, we read through each piece of literature and we dropped 2 articles due to issues with quality. The final total review sample included 16 articles and 1 book. Figure 3 details the full process for the review sample.

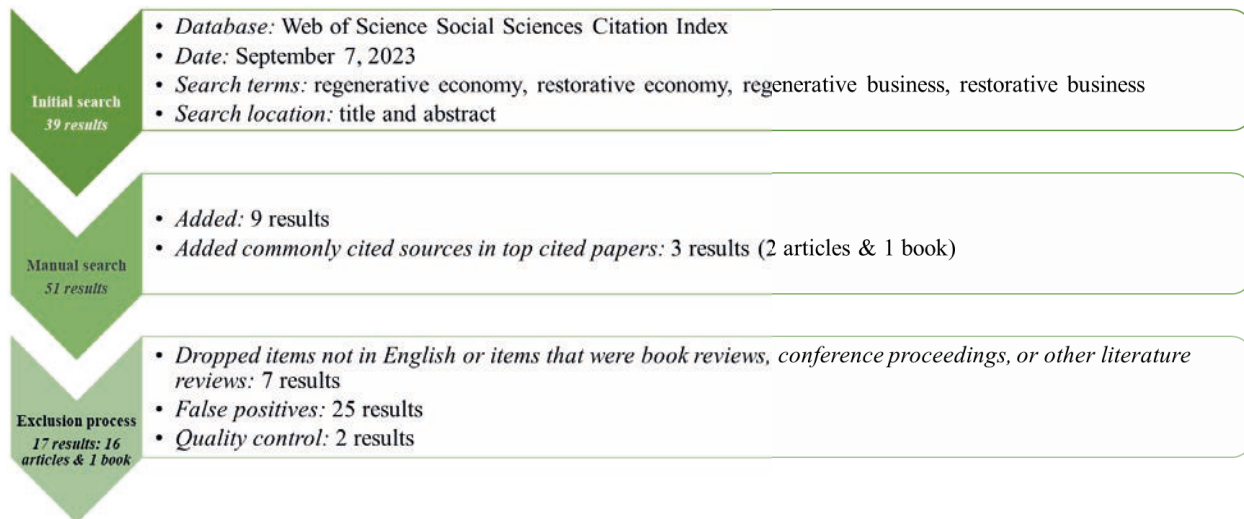


Figure 3. Review sample selection process

List of reviewed literature

- Ateljevic, I. (2020) Transforming the (tourism) world for good and(re)generating the potential ‘new normal’. *Tourism Geographies*, 22(3), 467-475.
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- Slawinski, N., Winsor, B., Mazutis, D., Schouten, J. W. & Smith, W. K. (2021) Managing the paradoxes of place to foster regeneration. *Organization & Environment*, 34(4): 595-618.

Review of terminology

Prior to our discussion of the core concepts for a regenerative economy and offering our definition, we reviewed the key terminology used for regeneration and restoration in our sample of papers. Table 2 outlines some of the key terms defined in this literature. Key themes arose from our review of the literature that formed the basis for the core concepts for a regenerative economy.

Table 2. Overview of terms relating to regeneration and restoration

Term	Definition	Source(s)
<i>Regeneration definitions</i>		
<i>Regenerative</i>	“To become formed again.”	Merriam Webster
	“Engage and focus ‘on the evolution of the whole of the system of which we are part.’”	Du Plessis & Brandon (2015); Reed (2007)
	“[...] the promotion of self-renewal capacity of natural systems with the aim of reactivating ecological processes damaged or overexploited by human action.”	Morseletto (2020)
	“[...] ‘the capacity to bring into existence again’ [...] it preserves its inherent capacity to exist once more.”	Muñoz & Branzei (2021)
	“[...] enhance the conditions for life in social-ecological systems.”	Hahn & Tampe (2021)
<i>Regenerative development and design</i>	“[...] the ‘almost infinite inter-relationships of ‘ecological systems’ are the way living entities, including humans, relate to, interact with and depend upon each other in a particular landscape in order to pursue and sustain healthy lives’ and are approaches that support the co-evolution of human and natural systems in a partnered relationship.”	Robinson & Cole (2015)
	“[...] a place-based development and design methodology that grows the capabilities necessary for living systems to increase in complexity, diversity, capacity to support all life, and the potential to change to provide future options (i.e., health and wellbeing).”	Gibbons (2020)
<i>Regenerative economy</i>	“[...] creating an economy in service to life.”	Lovins (2016)
	“[...] an economic system that works to regenerate capital assets providing goods and services that contribute to our well-being.”	Blau et al. (2018)
<i>Regenerative sustainability</i>	“[...] a co-creative partnership with nature [. . .] to restore and regenerate the global social-ecological system.”	Du Plessis (2012)
	“[...] create a future where the damage done to the biosphere and to our social systems has been	Du Plessis & Brandon

restored, and people can live in mutually supportive symbiosis with their social and biophysical environment (their whole ecological system).” (2015)

“[...] embrace the notion of adding value to place and aspire to deliver enduring, net-positive benefits to social, economic and ecological systems, while considering these systems and benefits in an integrated way.” Robinson & Cole (2015)

“[...] sees humans and the rest of life as one autopoietic system in which developmental change processes manifest the unique essence and potential of each place or community. [Its] aim is to manifest thriving and flourishing living systems (i.e., complex adaptive systems) in the fully integrated individual-to-global system.” Gibbons (2020)

<i>Regenerative business/ organizations</i>	“[...] strive to restore the natural ecosystems and the communities these natural ecosystems support.”	Muñoz & Branzei (2021)
	“[...] embedded in communities and ecosystems, seeking to restore and enhance them.”	Slawinski et al. (2021)

Restoration definitions

<i>Restorative</i>	“To bring back to or put back into a former or original state.”	Merriam Webster
	“[...] restore and re-create some of what we have lost.”	Hawken (1993)
	“[...] restore the capacity of local natural systems to a healthy state of self-organisation.”	Reed (2007)
	“[...] return to a previous or original state.”	Hahn & Tampe (2021)

<i>Restorative economy</i>	“[...] achieve a market in which every transaction provides constructive feedback into the commons, as opposed to what we know today, when virtually every act of consumption causes degradation and harm. And businesses must—must—be able to make money sustaining living systems, or global restoration will never happen.”	Hawken (1993)
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Restorative business “[...] enhance, and thrive through, the health of social-ecological systems in a co-evolutionary process.” Hahn & Tampe (2021)

“[...] focus on planetary health and societal wellbeing. They create and deliver value at multiple stakeholder levels—including nature, societies, customers, suppliers and partners, shareholders and investors, and employees—through activities promoting regenerative leadership, co-creative partnerships with nature, and justice and fairness [...] they aim for a net positive impact across all stakeholder levels.” Konietzko et al. (2023)

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