DOWNLOAD PDF INSTITUTIONS, ECOSYSTEMS, AND SUSTAINABILITY

Chapter 1 : Ecosystems Resources - Sustainability

Institutions, Ecosystems, and Sustainability focuses on long-term, sustainable natural resource management practices at the local, national, and international levels. The authors suggest that a major cause of the "sustainability problem" - regulatory policies for large areas that often threaten the sustainability of both natural resources and.

To remain effective it requires institutional framework and social networks to be nested across scales. In terms of its dynamics, the adaptive cycle has been described as moving slowly from exploitation r to conservation K , maintaining and developing very rapidly from K to release W , continuing rapidly to reorganisation a and back to exploitation r. The adaptive cycle is one of the five heuristics used to understand social-ecological system behaviour. Social or cultural potential can be characterised by the "accumulated networks of relationships-friendship, mutual respect, and trust among people and between people and institutions of governance" [4] p. According to the adaptive cycle heuristic, the levels of both dimensions differ during the course of the cycle along the four phases. The adaptive cycle thus predicts that the four phases of the cycle can be distinguished based on distinct combinations of high or low potential and connectedness. Adaptive governance and SES[edit] The resilience of social-ecological systems is related to the degree of the shock that the system can absorb and remain within a given state. In order to emphasise the key requirements of a social-ecological system for successful adaptive governance, Folke and colleagues [42] contrasted case studies from the Florida Everglades and the Grand Canyon. Both are complex social-ecological systems that have experiences unwanted degradation of their ecosystem services , but differ substantially in terms of their institutional make-up. The governance structure in the Everglades is dominated by the interests of agriculture and environmentalists who have been in conflict over the need to conserve the habitat at the expense of agricultural productivity throughout history. Such an arrangement in governance creates the opportunity for institutional learning to take place, allowing for a successful period of reorganisation and growth. Such an approach to institutional learning is becoming more common as NGOs, scientist and communities collaborate to manage ecosystems. A close conceptual and methodological relation exists between the analysis of social-ecological systems, complexity research, and transdisciplinarity. These three research concepts are based on similar ideas and models of reasoning. Moreover, the research on social-ecological systems almost always uses transdisciplinary mode of operation in order to achieve an adequate problem orientation and to ensure integrative results. This means that scientists from the relevant scientific disciplines or field of research as well as the involved societal stakeholders have to be regarded as elements of the social-ecological system in question. Potential of Social-Ecological Systems Analysis. The human ecosystem as an organizing concept in ecosystem management. Society and Natural Resources, Vol. Island Press, Washington, D. Progress in Human Geography, Vol. The emergence of a perspective for social-ecological systems analysis, Global Environmental Change, Vol. B and Park, TK. Journal of Political Ecology, Vol. The Culture andEcology of Comtnunal Resources. The University of Arizona Press. Complexity and the commons. Complexity theory for a sustainable future. Perspectives for Ecological Complexity. University of Chicago Press, Chicago. A framework to analyze the robustness of social-ecological systems from an institutional perspective. Ecology and Society, Vol. Population and the Environment Multiple-scale integrated assessment of societal metabolism: Environment, Development and Sustainability 3 4: Rights, resources and rural development: Journal of Environmental Management, Vol. Trends in Ecology and Evolution, Vol. Annual Review of Ecology and Systematics, Vol. Reviews in Fish Biology and Fisheries, Vol. Back to the future: Pages â€” in L. Schultz, L A handful of heuristics and some propositions for understanding resilience in social-ecological systems. Ecology and Society 11 1: Environmental Governance, Rutledge, London. Frontier Research for Sustainable Development. Implications for European Research Policy. Healthy country, healthy people:

Chapter 2 : Socio-ecological system - Wikipedia

Institutions, Ecosystems, and Sustainability focuses on long-term, sustainable natural resource management practices at the local, national, and international levels. The authors suggest that a major cause of the sustainabi In the latter part of the 20th century, humans are doing a particularly poor job of managing natural resources in a.

Sustainable development The name sustainability is derived from the Latin sustinere tenere, to hold; sub, under. Sustain can mean "maintain", "support", or "endure". Components[edit] Three dimensions of sustainability[edit] A diagram indicating the relationship between the "three pillars of sustainability", in which both economy and society are constrained by environmental limits [18] Venn diagram of sustainable development: One such pillar is future generations, which emphasizes the long-term thinking associated with sustainability. A study from pointed out that environmental justice is as important as sustainable development. The simple definition that sustainability is something that improves "the quality of human life while living within the carrying capacity of supporting eco-systems", [34] though vague, conveys the idea of sustainability having quantifiable limits. But sustainability is also a call to action, a task in progress or "journey" and therefore a political process, so some definitions set out common goals and values. More than that, sustainability implies responsible and proactive decision-making and innovation that minimizes negative impact and maintains balance between ecological resilience, economic prosperity, political justice and cultural vibrancy to ensure a desirable planet for all species now and in the future. More recently, using a systematic domain model that responds to the debates over the last decade, the Circles of Sustainability approach distinguished four domains of economic, ecological, political and cultural sustainability ; [42] this in accord with the United Nations , Unesco , Agenda 21 , and in particular the Agenda 21 for culture which specifies culture as the fourth domain of sustainable development. Rather, it involves treating all four domainsâ€”economy, ecology, politics and cultureâ€”as social including economics and distinguishing between ecology as the intersection of the human and natural worlds and environment as that which goes far beyond what we as humans can ever know. Human sustainability can be achieved by attaining sustainability in all levels of the seven modalities. Shaping the future[edit] Integral elements of sustainability are research and innovation activities. A telling example is the European environmental research and innovation policy. It aims at defining and implementing a transformative agenda to greening the economy and the society as a whole so to make them sustainable. Research and innovation in Europe are financially supported by the programme Horizon , which is also open to participation worldwide. Additionally, instigating innovative and sustainable travel and transportation solutions must play a vital role in this process. Resilience-thinking evolved from the need to manage interactions between human-constructed systems and natural ecosystems in a sustainable way despite the fact that to policymakers a definition remains elusive. It is also concerned with commitment from geopolitical policymakers to promote and manage essential planetary ecological resources in order to promote resilience and achieve sustainability of these essential resources for benefit of future generations of life? In nature, the accounting occurs naturally through a process of adaptation as an ecosystem returns to viability from an external disturbance. The adaptation is a multi-stage process that begins with the disturbance event earthquake, volcanic eruption, hurricane, tornado, flood, or thunderstorm , followed by absorption , utilization , or deflection of the energy or energies that the external forces created. History of sustainability The history of sustainability traces human-dominated ecological systems from the earliest civilizations to the present day. Coal was used to power ever more efficient engines and later to generate electricity. Modern sanitation systems and advances in medicine protected large populations from disease. In the late 20th century, environmental problems became global in scale. In the 21st century, there is increasing global awareness of the threat posed by the human greenhouse effect , produced largely by forest clearing and the burning of fossil fuels. The focus ranges from the total carrying capacity sustainability of planet Earth to the sustainability of economic sectors, ecosystems, countries, municipalities, neighbourhoods, home gardens, individual lives, individual goods and services[clarification needed], occupations, lifestyles, behaviour patterns and so on. In short, it can entail the full compass of biological and human activity or any part of it. To shed light on the big

picture, explorer and sustainability campaigner Jason Lewis has drawn parallels to other, more tangible closed systems. The environmental impact of a community or of humankind as a whole depends both on population and impact per person, which in turn depends in complex ways on what resources are being used, whether or not those resources are renewable, and the scale of the human activity relative to the carrying capacity of the ecosystems involved. Careful resource management can be applied at many scales, from economic sectors like agriculture, manufacturing and industry, to work organizations, the consumption patterns of households and individuals and to the resource demands of individual goods and services. This formulation attempts to explain human consumption in terms of three components: The equation is expressed: The most prominent among these concepts might be the Circular Economy , with its comprehensive support by the Chinese and the European Union. There is also a broad range of similar concepts or schools of thought, including cradle-to-cradle laws of ecology, looped and performance economy, regenerative design, industrial ecology, biomimicry, and the blue economy. These concepts seem intuitively to be more sustainable than the current linear economic system. The reduction of resource inputs into and waste and emission leakage out of the system reduces resource depletion and environmental pollution. However, these simple assumptions are not sufficient to deal with the involved systemic complexity and disregards potential trade-offs. For example, the social dimension of sustainability seems to be only marginally addressed in many publications on the Circular Economy, and there are cases that require different or additional strategies, like purchasing new, more energy efficient equipment. Sustainability measurement Sustainability measurement is the quantitative basis for the informed management of sustainability. They are applied over a wide range of spatial and temporal scales. Companies such as Lieef www.

Chapter 3 : Sustainability | calendrierdelascience.com

Institutions, Ecosystems, and Sustainability. the usefulness of global institutions in dealing with sustainable development is questionable as most are skewed toward the interests and.

See Article History Sustainability, the long-term viability of a community , set of social institutions, or societal practice. The idea of sustainability rose to prominence with the modern environmental movement , which rebuked the unsustainable character of contemporary societies where patterns of resource use, growth, and consumption threatened the integrity of ecosystems and the well-being of future generations. Sustainability is presented as an alternative to short-term, myopic, and wasteful behaviour. It can serve as a standard against which existing institutions are to be judged and as an objective toward which society should move. Sustainability also implies an interrogation of existing modes of social organization to determine the extent to which they encourage destructive practices as well as a conscious effort to transform the status quo so as to promote the development of more-sustainable activities. Forms of sustainability Sustainability is at the core of concepts such as sustainable yield, sustainable society, and sustainable development. The term sustainable yield refers to the harvest of a specific self-renewing natural resourceâ€”for example, timber or fish. Such a yield is one that can in principle be maintained indefinitely because it can be supported by the regenerative capacities of the underlying natural system. A sustainable society is one that has learned to live within the boundaries established by ecological limits. It can be maintained as a collective and ongoing entity because practices that imposed excessive burdens upon the environment have been reformed or abolished. And sustainable development is a process of social advance that accommodates the needs of current and future generations and that successfully integrates economic, social, and environmental considerations in decision making. In contemporary debate, sustainability often serves as a synonym for sustainable development. On other occasions, it is associated more exclusively with environmental constraints or environmental performance, and the expression environmental sustainability is used to emphasize that point. Parallel references can be found to the terms social sustainability, economic sustainability, and cultural sustainability, which allude to threats to long-term well-being in each of those domains. Local sustainability emphasizes the importance of place. Corporate sustainability is another common usage, which relates both to the survivability of the individual corporation and to the contribution that corporations can make to the broader sustainability agenda. Central here is the notion of the so-called triple bottom lineâ€”that businesses should pay attention to social performance and environmental performance as well as to financial returns. The notion of corporate sustainability is also connected to debates about reforming corporate governance , encouraging corporate responsibility, and designing alternative sustainable, green, or ethical investment vehicles. How to create a sustainable future While all sorts of practices are cited as threats to sustainability political corruption, social inequality, the arms race , profligate government expenditure , environmental issues remain at the heart of the discussion. Of course, what is conducive to environmental sustainability remains a matter of intense debate. A gradual adjustment toward sustainability relies on governmental initiatives to orient production and consumption into less environmentally destructive channels. That implies a reengineering of industrial and agricultural processes, a transformation of land-use practices, and a shift in household consumption. Potentially renewable resources should be managed to conserve their long-term viability; nonrenewable resources should be extracted at rates that allow an ordered transition to alternatives; emission of waste and toxic substances must remain within the assimilative capacities of natural systems; and more-vigorous measures must be taken to preserve species, habitats, and ecosystems. Managing long-term environmental issues such as climate change and the loss of biodiversity is of critical importance to efforts to achieve sustainability. Governments can deploy an array of policy tools to effect such changes, including regulation , fiscal instruments, negotiated agreements, and informational tools. Yet many problems resist solution because the offending unsustainable practices are linked to deeply entrenched practices and constraints and supported by established definitions of values and interests. But there are also more-radical takes on sustainability. For some environmentalists, true sustainability is possible only in small-scale communities , where human beings

can live in close contact with natural processes and rhythms. While other radical environmentalists may accept a high-tech postindustrial civilization, for them too there must be a clear break with existing economic practices and power structures. Economic analysts have sometimes defined the concept in terms of nondeclining per capita income flows over time and debated how to maintain the capital endowments needed to sustain those income flows. Controversy over the substitutability of natural and human-made capital has divided proponents of weak and strong sustainability; the former argue that the two types of capital are largely interchangeable, whereas the latter insist that natural capital is increasingly the scarcest factor of production. Ecologists and systems theorists have tended to approach sustainability in terms of physical interdependencies, energy flows, and population dynamics. They have emphasized the design features that suit social systems for long-term survival, including robustness, resiliency, redundancy , and adaptability. For their part, political analysts have focused on the ideological and normative implications of sustainability, on the character of green political projects, and on the public policy implications.

Chapter 4 : Institutions, ecosystems, and sustainability (Book,) [calendrierdelascience.com]

calendrierdelascience.com is a platform for academics to share research papers.

Chapter 5 : Sustainability - Wikipedia

Institutions, Ecosystems, and Sustainability is an attempt to provide a framework to explore this middle ground. Its stated aim is to provide a frameworkâ€"a common languageâ€"to link human and ecological systems.

Chapter 6 : Ecosystems â€“ United Nations Environment â€“ Finance Initiative

Description: For human systems, the idea of sustainability refers to the development of behavioral patterns and organizations (institutions) that can maintain or prolong a relationship between a socioeconomic system and the ecosystem functions and resources that support it.

Chapter 7 : Institutions, Ecosystems, and Sustainability - CRC Press Book

Institutions, Ecosystems, and Sustainability is an attempt to provide a framework to explore this middle ground. Its stated aim is to provide a framework / a common.*

Chapter 8 : Institutions, ecosystems, and sustainability | Robert Costanza - calendrierdelascience.com

Focuses on long-term, sustainable natural resource management practices at the local, national, and international levels.

Chapter 9 : Institutions, Ecosystems, and Sustainability by Robert Costanza

INSTITUTIONS, ECOSYSTEMS, AND SUSTAINABILITY Edited by Robert Costanza Bobbi S. Low Elinor Ostrom James Wilson m LEWIS PUBLISHERS Boca Raton London New York Washington, D.C.