Sustainable Ecosystems Unit 1 And Human Activity

Agriculture has an enormous environmental footprint, playing a significant role in causing climate change (food systems are responsible for one third of the anthropogenic greenhouse gas emissions), water scarcity, water pollution, land degradation, deforestation and other processes; it is simultaneously causing environmental changes... f6a96bda5b

Sustainable design) is the philosophy of designing physical objects, the built environment, and services to comply with the principles of ecological sustainability and also aimed at improving the health and comfort of occupants in a building. and human-computer interaction. Sustainable design is mostly a general reaction to global environmental crises, the rapid growth of economic activity Environmentally sustainable design (also called environmentally conscious design, eco-design, etc f6a96bda5b

Ecosystem ecology examines physical and biological structures and examines how these ecosystem characteristics interact with each other. Ultimately, this helps us understand how to maintain high quality water and economically viable commodity production. A major focus of ecosystem ecology is on functional processes, ecological mechanisms that maintain the structure... f6a96bda5b

Ecosystem service Evaluations of ecosystem services may include assigning an economic value to them. There are provisioning services, such as the production of food and water; regulating services, such as the control of climate and disease; supporting services, such as nutrient cycles and oxygen production; and cultural services, such as recreation, tourism, and spiritual gratification. Ecosystem services are the various benefits that humans derive from ecosystems. The interconnected living and non-living components of the natural environment offer benefits such as pollination of crops, clean air and water, decomposition of wastes, and flood control. Ecosystem services are grouped into four broad categories of services. The interconnected living and non-living components of the natural environment Ecosystem services are the various benefits that humans derive from ecosystems f6a96bda5b

Sustainable yield The definition of sustainable yield Sustainable yield is the amount of a resource that humans can harvest without over-harvesting or damaging a potentially renewable resource. This results in a decrease of the forest's sustainable yield. yield to sustain itself and re-establish a mature forest f6a96bda5b

Ecosystem ecology This science examines how ecosystems work and relates this to their components such as chemicals, bedrock, soil, plants, and animals. Ecosystem ecology is the integrated study of living (biotic) and non-living (abiotic) components of ecosystems and their interactions within an ecosystem Ecosystem ecology is the integrated study of living (biotic) and non-living (abiotic) components of ecosystems and their interactions within an ecosystem framework. Ecosystem ecologists study these relationships on large scales, linking biological diversity with ecosystem sustainability and function f6a96bda5b

Ecosystems are controlled by external and internal factors. External factors—including climate—control the ecosystem's structure, but are not influenced by it. By contrast, internal factors control and are controlled by ecosystem processes; these include decomposition, the types of species present, root competition, shading, disturbance, and succession. While

external factors generally determine which resource inputs an ecosystem has, their availability within the ecosystem is controlled by internal factors. Ecosystems are dynamic, subject to periodic disturbances and always in the process of... f6a96bda5b

Sustainability ". The idea of sustainability can guide decisions at the global, national, organizational, and individual levels. This can include addressing key environmental problems, including climate change and biodiversity loss. a more sustainable world), while sustainable development refers to the many processes and pathways to achieve it. A related concept is that of sustainable development, and the terms are often used to mean the same thing. as a long-term goal (i. " Details around Many definitions emphasize the environmental dimension. e. a more sustainable world), while sustainable development refers to the many processes and pathways to achieve it. e. UNESCO distinguishes the two like this: "Sustainability is often thought of as a long-term goal (i f6a96bda5b

For example, estuarine and coastal ecosystems are marine ecosystems that perform the four... f6a96bda5b In more formal terms, the sustainable yield of natural capital is the ecological yield that can be extracted without reducing the base of capital itself, i.e. the surplus required to maintain ecosystem services at the same or increasing level over time. The term only refers to resources that are renewable in nature as extracting non-renewable resources will always diminish the natural capital. The sustainable yield of a given resource will generally vary over time with the ecosystem's needs to maintain itself. For instance, a forest that has suffered from a natural disaster will require more of its own ecological yield to sustain itself and re-establish... f6a96bda5b Details around the economic dimension of sustainability are controversial. Scholars have discussed this under the concept of weak and strong sustainability. For example, there will always be tension between... f6a96bda5b

Human impact on the environment Human impact on the environment (or anthropogenic environmental impact) refers to changes to biophysical environments and to ecosystems, biodiversity Human impact on the environment (or anthropogenic environmental impact) refers to changes to biophysical environments and to ecosystems, biodiversity, and natural resources caused directly or indirectly by humans. Some of the problems, including global warming and biodiversity. Some human activities that cause damage (either directly or indirectly) to the environment on a global scale include population growth, neoliberal economic policies and rapid economic growth, overconsumption, overexploitation, pollution, and deforestation. Modifying the environment to fit the needs of society (as in the built environment) is causing severe effects including global warming, environmental degradation (such as ocean acidification), mass extinction and biodiversity loss, ecological crisis, and ecological collapse f6a96bda5b

Sustainable fishery Sustainability in fisheries combines theoretical disciplines, such as the population dynamics of fisheries, with practical strategies, such as avoiding overfishing through techniques such as individual fishing quotas, curtailing destructive and illegal fishing practices by lobbying for appropriate law and policy, setting up protected areas, restoring collapsed fisheries, incorporating all externalities involved in harvesting marine ecosystems into fishery economics, educating stakeholders and the wider public, and developing independent certification programs. A conventional idea of a sustainable fishery is that it is one that is harvested at a sustainable rate, where the fish population does not decline over A conventional idea of a sustainable fishery is that it is one that is harvested at a sustainable rate, where the fish population does not decline over time because of fishing practices f6a96bda5b

Sustainable design seeks to reduce negative impacts on the environment, the health and well-being of building occupants, thereby improving building performance. The basic objectives of sustainability are to reduce the consumption of non-renewable resources, minimize waste, and create healthy, productive environments. f6a96bda5b

Sustainable agriculture Sustainable agriculture is farming in sustainable ways meeting society's present food and textile needs, without compromising the ability for current Sustainable agriculture is farming in sustainable ways meeting society's present food and textile needs, without compromising the ability for current or future generations to meet their needs. There are many methods to increase the sustainability of agriculture. When developing agriculture within the sustainable food systems, it is important to develop flexible business processes and farming practices. It can be based on an understanding of ecosystem services f6a96bda5b

Some primary concerns around sustainability are... f6a96bda5b

Ecosystem Human activities are important in almost all ecosystems. The biotic and abiotic components are linked together through nutrient cycles and energy flows. into a unified system. Although humans exist and operate within ecosystems, their cumulative effects An ecosystem (or ecological system) is a system formed by organisms in interaction with their environment f6a96bda5b

Marine ecosystem The oceanic zone is the vast open part of the ocean where animals such as whales, sharks, and tuna live. Marine ecosystems are the largest of Earth's aquatic ecosystems and exist in waters that have a high salt content. These systems contrast with freshwater ecosystems, which have a lower salt content. Actual salinity varies among different marine ecosystems. The benthic zone consists of substrates below water where many invertebrates live. Marine ecosystems can be divided into many zones depending upon water depth and shoreline features. Seawater has an average salinity of 35 parts per thousand of water. The intertidal zone is the area. Marine waters cover more than 70% of the surface of the Earth and account for more than 97% of Earth's water supply and 90% of habitable space on Earth. These systems contrast with freshwater Marine ecosystems are the largest of Earth's aquatic ecosystems and exist in waters that have a high salt content f6a96bda5b