

3 Definitions Assignment

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In response to the Definitions Assignment, the following paragraphs will demonstrate examples of a parenthetical definition, a sentence definition, and an expanded definition to explain what an agroecosystem is. The intended readers are farmers who are looking to increase the scale of their production. By beginning to understand all of the components of their farm, they might be able to make their food production more efficient and sustainable.

A Parenthetical Definition:

Forest gardens are the world's oldest and most resilient agroecosystems (a human managed ecosystem).

A Sentence Definition:

An agroecosystem is a managed ecosystem that serves to produce food, fiber, and other products for society.

An Expanded Definition:

Definition of agroecosystem

What is an agroecosystem?

An ecosystem is a community of living organisms who interact with the non-living components of their environment. An agroecosystem is a human managed ecosystem that serves to produce food, fiber, and other products for society. They are a product of the practice of agriculture. Agroecosystems are spatially and functionally defined coherent unit of agricultural activity, and as a subset of a conventional ecosystem, include living and non-living components as well as their interactions. Usually, an agroecosystem will be equivalent to one farm, although it could easily be considered a grouping of several farms of varying sizes in a region defined by ecological parameters.

What are its parts?

The name agroecosystem implies that at the core of an ecosystem, lies the human activity of agriculture. Like any system, agroecosystems have inputs and outputs. These are determined by the somewhat arbitrary spatial boundaries that are used to as a convention to define agroecosystems. For example, as seen in Figure 1. shown below, the technological system, the social setting, and the environmental setting are considered to be external inputs.

How does it work?

The inputs and outputs of agroecosystems interact to produce products for society. These interactions can be very complex. They include a wide variety of inputs like nutrient fertilization, and many different outputs such as fertilization waste. External inputs range from human labour from nonfarm residents, fossil fuels to run equipment, and natural inputs like solar radiation or precipitation (Gliessman, 2009). Agroecosystems are very similar to natural ecosystems and

include a flow of energy, water, and chemical elements that enter and leave the system in anthropogenic and natural cycles (Marten, 1988).

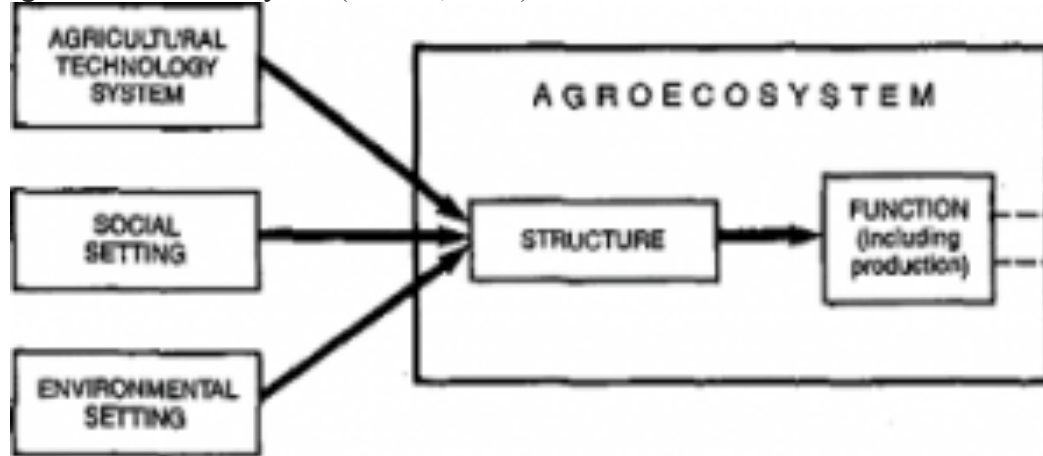


Figure 1. Examples of Inputs for an agroecosystem and the different components involved (Agroecosystem Health Project, 1996).

How is it used or applied?

Agroecosystems are products of the practice of agriculture. As soon as there are human modifications to the environment for cultivation and breeding of products used to sustain and enhance life, the environment will be deemed an agroecosystem.

References:

- Agro-ecosystem Health Project. (1996). *Agroecosystem health*. University of Guelph, Guelph, Canada.
- Gliessman, S. (2009). *The Conversion to Sustainable Agriculture: Principles, Processes, and Practices*. CRC Press, Boca Raton, FL.
- Marten, G. (1988). Productivity, Stability, Sustainability, Equitability and Autonomy as Properties for Agroecosystem Assessment. *Agricultural systems*. 291-316.