



What is agroforestry?

Dr. Steven H. Sharrow, 2008

Agroforestry is a generic term for a variety of agricultural practices. Although the term ‘agroforestry’ has only been widely used since the early-1980’s, people have been practicing agroforestry for thousands of years. They use it because it works. Many farmers and forest users developed agroforestry practices because they met their needs. To land users, integration of their activities just makes sense. They did not know or particularly care that they were practicing agroforestry.

The first international conference in North America about agroforestry “Foothills for Food and Forests” was hosted by Oregon State University in 1982. Agroforestry gained professional status with the establishment of the International Center for Research in Agroforestry (now the World Agroforestry Center) in 1977. Their initial programs involved cataloging traditional agroforestry practices and a survey of current agroforestry research and extension efforts. One part of their survey asked practitioners for their definition of agroforestry. As one might expect, the hundreds of responses received varied considerably. However, they all shared three main characteristics which together serve to delimit agroforestry: (1) a combination of agriculture (either plant or animal) with woody plants (trees or shrubs), (2) significant planned interactions between the trees and the agricultural component, and (3) a systems approach to management. In his review of published agroforestry articles, Somarriba (1992) reached similar conclusions. This definition of agroforestry stresses the managed, intentional interactions between the components that together make up the system. It is not possible to judge whether or not an observed practice is agroforestry without knowing the intent of the manager. Combinations of crops and trees may occur without any



Farmers converting fields to orchards continue to grow cotton in New Mexico while pecan trees are small... It just makes sense...



Simply grazing livestock in the forest is NOT Agroforestry. (Oregon)

Grazing livestock as part of a forest management system IS silvopastoral agroforestry (Oregon)



management attempt to functionally integrate them. This is not agroforestry. Likewise, some types of agroforestry systems do not have the tree and crop present in the same field at the same time.

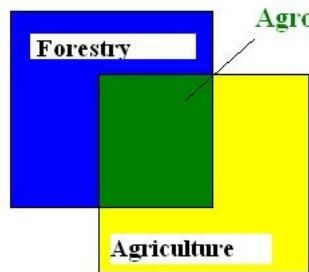
Agroforestry includes both *intercropping* (structural agroforestry) and agroforestry in time (*swidden, fallow, taungya*). Intercropping is a form of *polyculture* in which two crops occur together on the same parcel of land at the same time. In agroforestry, one of the two crops is a tree or shrub. In swidden (slash and burn) systems, components are separated in time. The classic swidden system, for example, combines a tree-based regenerative (fallow) phase with a much shorter agricultural cropping phase. Together, the two phases form a single sustainable system whose components significantly interact over time.

Swidden “garden” in Amazon rain forest is cropped for several years, then returns to forest for the soil to replenish itself.



Structural agroforestry systems are often described by their components. *Agrosilviculture* is the combination of trees and herbaceous crops. *Silvopastoral* systems combine trees with animal agriculture. *Agrosilvopastoral* systems combine trees, herbaceous crops, and animals.

The fields of agriculture and forestry were well established prior to agroforestry gaining notoriety. The question of a home discipline for agroforestry has been problematical. Is agroforestry a type of forestry or a type of agriculture? Put another way, is it AGROforestry or agroFORESTRY? Most agroforesters would argue that it is neither forestry nor agriculture but a quite distinct endeavor. Just as blue and yellow make a new color, green, the combination of forestry and agricultural provides new and unique properties and practices. What sets agroforesters apart is their focus on the interactions between the tree and crop components rather than on the individual components themselves. Agroforesters value the functional links (resource sharing, interference and facilitation)



between system components as much as the products produced by each component. It is these functional linkages that provide superior productivity and sustainability to agroforests compared to simpler forest of agricultural

systems. What sets agroforesters apart from foresters and agriculturalists is their interest in the *interactions* between forest and agricultural components rather than tightly focusing on the individual components themselves.



Growing squash between Casuarina timber trees is AgroSilviculture (Egypt)



Growing Acacia fodder trees in wheat fields grazed by sheep is AgroSilvoPastoral. (Egypt)

As with many professions, agroforestry has a common professional culture. Most agroforesters are *conservationists* rather than *preservationists*. They favor low input, sustainable systems that

respect the environment while also meeting human needs. They also tend to assume a *resource-rich* rather *resource-poor view of nature*. The resource-poor view, focused on competition for scarce resources, is less appealing to agroforesters than the resource-rich view that components can facilitate each others growth, thus increasing production from the same set of existing resources. This view is contained in the agroforestry concept that *a good system is better than the sum of its parts*.

Because human intention and creativity are intimately involved in forming agroforestry practices, people are a component of the system. In order for agroforestry practices to be successful, they must be: (a) Biologically Possible, (b) Environmentally Sustainable, (c) Economically Feasible, and (d) Socially Acceptable. Agroforestry ideas are most easily sold to farmers based upon economics and to governments based upon environmental benefits.

Agroforestry has been widely promoted as an environmentally friendly mechanism to meet people's needs on existing farm and pasture lands, while preserving unexploited areas of native forest. Agroforestry does this well. However, it can also be used as a tool to increase profitability of farming low-producing forest sites, thereby promoting deforestation. It is important not to confuse the definition of agroforestry with the intent of agroforesters. Agroforestry is a *type of land management* system. It includes a wide variety of specific practices that can be used for many different purposes.

Somarriba, E. 1992. Revisiting the past: an essay on agroforestry definition. *Agroforestry Sys.* 19:233-240.