

Tree Diversity Day 2014

Agroforestry and Aichi Biodiversity Target 7

***Aichi Target 7:** By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity*

Agroforestry is the practice of mixing trees, other crops, and livestock on farms in order to bring about a number of benefits for farmers and the broader community. These include additional food, timber and fuelwood as well as improved water management and soil fertility. Agroforestry systems are inherently more diverse than crop systems without trees, and contribute to efforts to conserve or increase biodiversity.

- Agroforestry can contribute significantly to the sustainability of agriculture and the maintenance of biodiversity in farming systems. Agroforestry works well in landscape management systems where, instead of expansive farms growing monocrops, farming is mixed within mosaics of other forms of land use. Thus farms co-exist with natural forest, woodlots, pasture, water bodies and people and their infrastructure. Under these systems, agroforestry provides additional biological diversity on farms.
- Agroforestry is particularly valuable at the margins of forested areas. Here, tree crops (such as rubber inter-cropped with other crops or coffee grown under shade) modify the transition from forest to intensive cropping with mixed systems that provide homes for biodiversity. Comparable systems can be used in drylands. For example, in Tanzania, a traditional system known as *Ngitili* keeps grazing animals away from areas of woodland, encouraging the development of biodiversity-rich woods that can be used for dry season grazing.
- Agroforestry is useful where wildlife corridors are being established. Instead of trying to connect areas of wildlife conservation by connecting strips of trees, which are often not welcome in farming areas, it is possible to use areas of agroforestry where trees and crops mix to provide cover for moving animals and aerial pathways at a safe height. Multistory agroforestry systems are very suited to this purpose.
- Some extensive farming systems have been found to be improved when trees have been introduced. For example in the Sahel, where crops have been grown for decades in barren extensive croplands, improved rains have allowed farmers to encourage the growth of trees to create vast areas of Sahelian parklands. The trees, established through a process known as Farmer Managed Natural Regeneration, provide welcome shade, fodder for livestock, timber and fuelwood and are believed to improve soil nitrogen. They provide the barren Sahel with more harbours for biodiversity.

Tree Diversity Day 2014

- There are numerous barriers to the introduction of agroforestry. A major challenge is that agroforestry is knowledge intensive. The people on the land need to know about the potential of agroforestry to improve their livelihoods. They need access to knowledge about the best species of trees for their purposes and how to plant and care for them. Policy-makers need to understand the needs of land-users and make supportive policy and regulations. In the absence of such understanding, policies often deter people from planting trees. For example, in many countries trees on farms are regulated by forests regulations, and farmers are penalized for felling, transporting and selling the trees. Tree tenure is often complex, with the user of land not necessarily able to benefit from trees growing on it. In addition to knowledge and supportive policy, land users also need access to high quality planting material and markets for their tree products. Once these barriers have been eliminated, agroforestry can bring huge improvements to the productivity and sustainability of agriculture. Agroforestry can be especially valuable to women who need access to nutritious food for their children, fuel to cook the food and extra income.

World Agroforestry Centre (ICRAF) carries out research in agroforestry and is able to provide knowledge and advice on agroforestry systems. In addition to knowledge on what works where and how to ensure a supply of good planting material, ICRAF also works with policy-makers and legislators to ensure a supportive policy environment for agroforestry. The Centre specializes in the development and dissemination of advanced methods for monitoring land cover and soil quality, all of which are of great potential value in monitoring the Aichi Targets.

<http://www.worldagroforestry.org/cop12/>

Contributors: *Philip Dobie, Ake Mamo, Daisy Ouya, Stepha McMullin*