

Improving Agroforestry through Effective Property Rights and Collective Action



Agroforestry is a system that combines agriculture and trees. In this system, trees play a prominent role. Benefits derived from agroforestry include the following:

- *Tree products:* fuel wood, timber, poles, medicines, and resins.
- *Services by trees:* shade and soil conservation.
- *Global benefits:* biodiversity, watershed protection, carbon sequestration, and microclimate regulation.

SOURCE:

Place, F., K. Otsuka and S. Scherr. 2004. *Collective Action and Property Rights for Sustainable Development: Property Rights, Collective Action, and Agroforestry*. 2020 Focus Brief 11, International Food Policy Research Institute, Washington, D.C.

Different agroforestry systems require different periods of time to develop and manage. Over longer time periods, property rights increase in importance; over larger areas, collective action becomes more important. Depending upon what benefits are sought, farmers will adopt various degrees of joint action or coordination within the landscape.

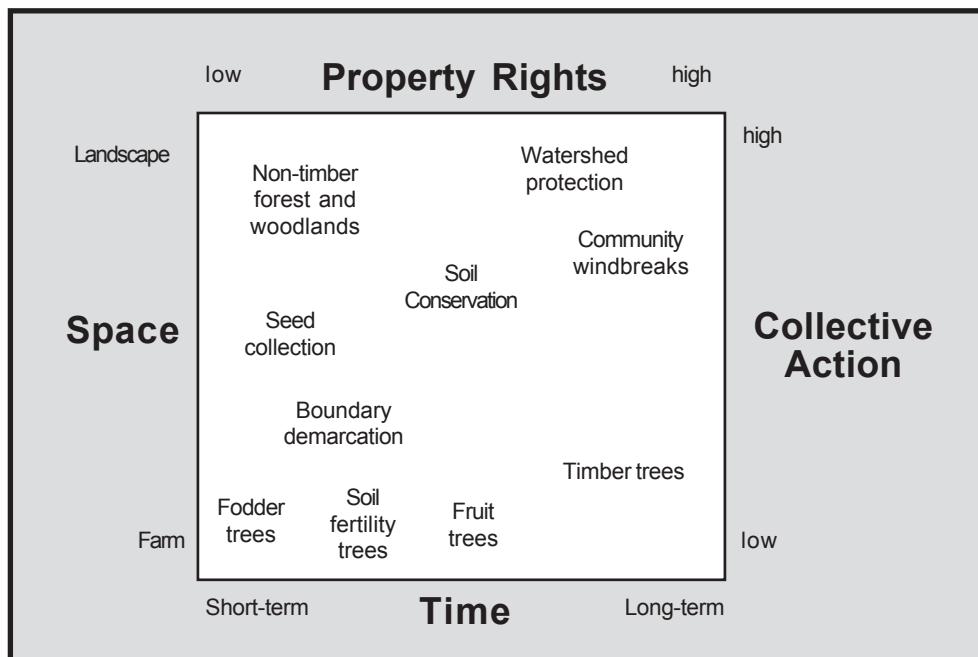


Figure 1. Relative Importance of Property Rights and Collective Action.

Figure 1 shows how different types of agroforestry outputs or activities will demand different levels of property rights or collective action.

Property Rights and Agroforestry

To justify investing in trees, a household or group must have reasonable assurance of receiving the benefits from their investments. Investors must have confidence that tenure will be secure in the future. In much of the world, the rights to plant, harvest, and benefit from trees are linked to underlying land rights.

Permanent Ownership. In many parts of the world, the rights to plant, harvest, and benefit from trees are linked to whether the farmers formally or legally own the lands or not.

Temporary Ownership. Farmers who acquire land on a temporary basis agree on some share-cropping arrangements. This is a situation where rights and incentives to plant trees are weak.

Government Intervention. In some cases, governments complicate the planting and harvesting of trees by issuing regulations that either strengthen or weaken the planting of or investing in trees.

Tree Tenure. The importance of tree tenure must also be considered at a landscape level. Where farmers have unfettered access to trees in woodlands or forests, the incentives to plant on their own land are reduced, even if their rights to plant are unquestioned.

Communal Land Tenure. In strong communal land tenure systems, communities may be encouraged to establish agroforestry systems that provide communal benefits, such as riverine vegetation or common dry season tree fodder reserves.

Customary Tenure System. In customary tenure systems, individual rights to land are often granted to those who invest in the land. Thus, these systems have been associated with both investment in clearing trees from forest to grow crops as well as planting tree specie of choice.

Common Property Rights System. In the case of woodlands, the protection of non-timber products is costly, but tree management is not very important because of relatively low returns to improved management for these lower-value products. In this case, collective protection under a common property regime system often works best.

Collective Action and Agroforestry

Most agroforestry systems can be established on individual plots and managed without explicit collective action. But collective action can increase the effectiveness of agroforestry, either by reducing risks or costs or by enabling positive externalities to occur. Examples include:

- collecting and mixing tree seeds to prevent genetic deterioration;
- managing group nurseries to take advantage of scarce water sources;
- establishing grazing rules to prevent browsing of seedlings; and
- collectively guarding valuable tree stands to reduce protection costs.



For agroforestry systems intended to produce community-wide agricultural or environmental benefits, other types of collective action are essential for establishment and management. Examples include the coordinated planting of trees to reduce soil erosion in a watershed or the establishment of a community-wide windbreak and the joint fencing of lands to restore natural woody vegetation for biodiversity and water management. These examples of collective action for agroforestry are seen throughout the world.

Although non-government organizations (NGOs) or external projects often attempt to create new local organizations to carry out such activities, mobilizing existing local groups can be more effective over the long term. Even if the work is new to these existing groups, they can be successful because social capital (trust and mutual obligations) and organizational systems are already established.

Relevant Lessons for Agroforestry

The importance of property rights or collective action arrangements for management incentives will depend on the particular agroforestry-related task, product, or service being evaluated. Consider the difference between timber and non-timber forest products. In the case of a timber plantation (lower right portion of Figure 1), incentives to invest and manage determine the level of benefits received. Since it is relatively simple to detect harvesting activities and the size of timber area is often limited, it is easy to protect the trees. In such a case, a clear private property rights system leads to an efficient management outcome. In the case of woodlands (upper left portion of Figure 1), the protection of non-timber forest products (NTFPs) is costly, but tree management is not very important because of relatively low returns to improved management for these currently

lower-value products. In this case, collective protection under a common property regime system often works best.

Effective property rights or collective action arrangements need not be formalized. In many examples throughout the world, indigenous systems provide appropriate incentives for the development of agroforestry systems. Social institutions for property rights and collective action clearly shape agroforestry investments. Agroforestry development initiatives must consider these institutions as they work with local people to identify suitable tree species, agroforestry systems, planting sites, and management systems. In the short term, there may be limited scope to modify these institutions but considerable room to work creatively within them. Over the medium to long term, the development of property rights and organizations for collective action will be critical to improved land management, including agroforestry.



In many parts of the world, the rights to plant, harvest, and benefit from trees are linked to whether the farmers formally or legally own the lands or not.

In the future, property rights and collective action will play increasingly pivotal roles in defining rights and responsibilities over the externalities of tree management practices. As stakeholders recognize the need for the effective management of, for example, erosion resulting from tree felling or rights to carbon sequestration from tree planting, they will increasingly value and depend on the institutions that protect their property rights.

Suggested Readings

Meinzen-Dick, R., A. Knox, F. Place and B. Swallow (eds.). 2002. *Innovation in Natural Resource Management: The Role of Property Rights and Collective Action in Developing Countries*. Baltimore: Johns Hopkins University Press.

Otsuka, K. and F. Place (eds.). 2001. *Land Tenure and Natural Resource Management: A Comparative Study of Agrarian Communities in Asia and Africa*. Baltimore: Johns Hopkins University Press.

Sourcebook on **Resources, Rights, and Cooperation**, produced by the CGIAR Program on Collective Action and Property Rights (CAPRI)