



Making REAL(U) Right: Harmonizing Agriculture, Forests and Rights in the Design of REDD+

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Global attention to Reducing Emissions from Deforestation and Forest Degradation (REDD+) mechanisms provides an opportunity for climate protection and enhancing the livelihoods of farming and forest communities. It has become increasingly apparent that an understanding of the agricultural context of REDD+ projects is critical to success. Agriculture is a major driver of deforestation, and the fate of forests is often closely connected to the management of the agricultural landscapes in which they sit.

Fortunately, the widened scope of REDD+ means that restoration of degraded lands, afforestation, agro-forestry and agriculture – and the associated tenure and rights implications – are likely to receive more attention in the design of REDD+ programs. Unfortunately, while all 18 publicly available Readiness Preparation Proposals (R-PPs) highlight agriculture as a direct or indirect driver of deforestation, explicit treatment of agriculture as a driver is so inadequate that formal analyses universally recommend more in-depth study. This brief shines some light on the key REDD+, agriculture and rights linkages that require deeper thinking and presents policy recommendations on how to address and advance mutually reinforcing climate goals.

use patterns when selecting climate-friendly interventions; the interplay of forest and farm rights; innovative strategies to utilize REDD+ financing within agricultural landscapes; and comprehensive landscape monitoring of all emissions.

The trajectory of agricultural development is a key determinant of the success of REDD+. The original model of REDD was to pay landowners the opportunity costs of forgoing forest development. Yet most agricultural production systems offer much higher financial benefits than natural forests. Given low relative carbon prices and the likelihood that they will remain low relative to agricultural options in the future, this payment model has limited scope. It is only relevant in the small set of circumstances where deforestation is principally due to conversion to very-low-value land uses like extensive grazing or small-scale subsistence food production and where governance systems are sufficiently developed to manage payments over the long-term. In most other cases, reducing deforestation requires more than shifting financial incentives at the margin—it requires transformation of the land rights and land use system to harmonize farm and forest policy.

Thus successful REDD+ depends less on forestry strategies than on *agricultural development* strategies that retain and sustain forests. Box 1 lists key types of agricultural drivers of deforestation and degradation, each of which requires a different set of strategies, with different agricultural stakeholders.

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Agriculture and REDD+

To effectively reduce anthropogenic land use emissions, REDD+ programs will grapple with a host of agriculture-related issues: the agricultural tradeoffs inherent in projects; consideration of land

* Reducing Emissions from All Land Uses

BOX 1: CAUSES OF DEFORESTATION LINKED TO AGRICULTURE AND OPTIONS TO ADDRESS THEM

Public policy encouraging deforestation and degradation

Allocating private commercial agricultural concessions in public forests

- › *Limit concessions and require large-scale forest conservation in concession deals*

Private commercial agricultural and ranching development through land purchases or claims

- › *Implement land use controls and encourage climate-smart agricultural supply chains*

Insecure tenure rights propel farmers to clear land to stake their property claims

- › *Invest in programs to secure tenure rights of farmers, agro-foresters and forest communities*

Large-scale migration into forest areas for subsistence farming

- › *Generate employment and farming opportunities away from forest areas; limit infrastructure in forest areas*

Locally-led agricultural causes deforestation and degradation

Agricultural land degradation pushing farmers to clear new forested lands

- › *Assist farmers in existing croplands to restore soil, land and water quality*

Natural growth of agricultural population pushing young farmers to clear new lands

- › *Support labor-absorbing agricultural practices and non-farm employment; empower forest owners to limit settlement*

Uncontrolled burning in agricultural systems that spreads to forests

- › *Assist switch to controlled or no burning practices, and establish local monitoring*

Shortening of forest fallows in shifting cultivation systems under population pressure

- › *Assist switch to short-fallow or permanent farming, plus forest stewardship*

The value of, and demand for, agricultural land in a future of rising food demand will likely be quite different than it is today. Since REDD+ programs should be designed to protect the forest cover over the long-term, the likely future trajectories of agricultural development must be taken into account in program design.

Many REDD+ champions (and promoters of agricultural development) focus on promoting agricultural intensification, on the assumption that this will reduce pressure on forests. Empirical evidence suggests that this is not often true. In some cases, for example in Amazonia, agricultural intensification may actually create incentives for deforestation. In other cases, this fails to address the real drivers (see Box 1). As REDD+ projects develop, each will require site-specific analysis to

predict the effects of various forest protection and agricultural interventions.

Public policy and land use patterns matter.

Forests do not exist in a vacuum; the surrounding land use mosaic matters when selecting interventions. Box 2 lists some of the many mechanisms that can be employed for REDD+ programs where the landscape has an important agricultural component. But effective REDD+ program designs will differ depending on whether the landscape mosaic is forest-dominated or agriculture-dominated. It is also important to determine *where* the drivers are—inside the forest, in the buffer, outside the forest, or far away in market or political centers - in order to determine which stakeholders should be prioritized. A very different strategy will be

BOX 2: MECHANISMS TO OPERATIONALIZE REDD+ STRATEGIES IN AGRICULTURE-FOREST LANDSCAPES

1. Reduce pressure to extend agricultural land area or over-use forest resources

- Limit the approval of new agricultural concessions for large-scale operations
- Clarify tenure rights of agricultural households and communities to incentivize maximization of their productive capacity on existing agricultural land before expanding into forested areas
- Invest in education, extension, research and technology development that favors intensification of agricultural production on existing lands rather than newly deforested land
- Provide technical assistance and credit programs to increase productivity of agricultural land, labor and resources (or restore degraded resources) of local subsistence and market producers
- Provide technical assistance and credit programs to increase productivity of agricultural land, labor and resources of major commercial producers
- Provide technical assistance programs and tree nursery development to promote agroforestry systems on farms, to replace products from the forest

2. Increase incentives for farmers to conserve the forests on their land

- Legally and socially secure tenure rights to land, trees, carbon and associated benefits of farmers (especially migrants) to reduce land clearance as a means to establishing property rights to land with trees on it.
- Promote agricultural product standards or certification systems that require forest protection on the farm (e.g., forest friendly coffee)
- Implement programs to increase and diversify income from farm or community forests, through non-timber forest products and high value selective logging and processing
- Promote programs to engage in farming economically valuable foods and products under forest cover (e.g., chestnuts and rubber)
- Mobilize farmer/community support for protecting forests that secure agricultural benefits (e.g., for water, wild pollinator habitat, flood control, windbreaks)
- Develop private or public payments for a range of ecosystem services provided by farm or community forests (beyond carbon).

3. Regulate farmer clearing of forests

- Promote locally negotiated by-laws imposing agricultural land use restrictions on private land conversion, easements, riparian protection, etc.
- Implement and enforce national or local government restrictions on agricultural land use in public lands (e.g., protected areas, limited use buffer zones, concession policy)
- Strengthen forest owners' rights and capacities to negotiate land access and terms with outside commercial agricultural interests, or to exclude immigrant farmers

required if agricultural immigrants into a forest area are mainly from neighboring agricultural areas, expanding due to land degradation, than if they are migrating from cities due to lack of jobs. Given the variety of landscape contexts for

forests-agriculture mosaics, REDD+ designers must understand the implications of land use patterns (and subsequent trade-offs) in a particular place as well as the socio-economic and political dynamics underpinning them.

Agricultural land use rights are as important as forest rights in the success of REDD+ programs.

The importance of clear forest rights to REDD+'s success is increasingly better understood by policy makers. Without strong rights for forest dwellers, REDD+ could create incentives to move people out of forests. Schemes based on this dynamic may be not only unethical, but in many cases be ineffective.¹ Rights issues for REDD+ may also need to address freedom of movement and rights to secure livelihoods. Safeguard protections for all rightsholders – including foresters, farmers and landless workers – will need to be explicit and coordinated.

Land use policies and rights regimes in surrounding agricultural areas are critical to success. In most cases, agricultural and forest rights in a given landscape will be distinct, even on the same farm or community. Household rights to own, sell, use, rent, manage, clear, harvest and exclude others from agricultural land, are in general, stronger than for forest lands, over which the state or community typically make stronger claims. A single farm may face diverse sets of rights over its cropland, planted trees, forest, grazing land and water. Pastoralists, farmers and forest-users interact in dynamic landscapes, and increasing the values of standing forests, degraded lands, and farmland is likely to engender increased competition for resources. Moreover, carbon rights on farm and forest lands may differ, and will need to be clarified. These



Agriculture landscape near Kijabe Forest. Windbreaks and other planted trees create habitat and corridors for biodiversity of neighboring forest, provide watershed that act against erosion. Photo by Seth Shames

differences will have to be taken into account if a REDD+ program is to cover the full suite of land uses

The challenge is complicated by the diversity of relationships between farmers and the forest in a given landscape, and their differing concerns in negotiating REDD+ strategies:

1. Farmers who are themselves the forest owners/managers: may fear losing forest rights
2. Farmers who rely on forests controlled by local government: may fear change in rights of access
3. Farmers who are small-scale immigrants: may conflict with rights of existing communities
4. Farmers on private lands who are commercial agricultural developers: may conflict with local farmer or community rights
5. Agricultural company concessions in public or community forests: may conflict with rights of local communities that rely on the forest.

¹. See *Foundations for Effectiveness: RRI & RFN*, 2008.

TABLE 1. VARIATION OF GHG EMISSIONS UNDER DIFFERENT FARMING PRACTICES (tCO₂eq/hectare)^a

Dairy Production System		Maize Production System		Corn-soy-wheat Rotation System	
Conventional grazing dairy in Costa Rica	4.24	Maize with intensive (N,P,K*) fertilizers in USA	0.84	Corn-soy-wheat rotation using conventional tillage in USA	1.14
Silvopastoral dairy in Costa Rica	2.32	Maize with BMPs (less N and no P,K fertilizers) in USA	0.54	Corn-soy-wheat rotation using low chemical inputs and legume cover in USA	0.63
				Corn-soy-wheat rotation using organic methods with legume cover in USA	0.41
				Corn-soy-wheat rotation using no-till in USA	0.14

a. *Esparza farm scale case study data by Leonardo Guerra, CATIE; Adviento-Borbe et al 2007; Robertson, Paul and Harwood 2000, respectively*

*N=nitrogen; P=phosphorus; K=potassium; BMP=better management practices

Additionally, the effects of different jurisdictional rights must be managed. For instance, water and forest law may be at odds, with water law allowing for the development of riparian areas which may directly undermine REDD+ efforts. Cross-sectoral policy engagement is required to align policy frameworks. As the scope of REDD+ expands, this landscape-scale coordination will necessitate an inclusive multi-stakeholder dialogue that reflects the institutional diversity of forest-agriculture mosaics.

Forest protection may increase agricultural emissions. When agriculture is effectively constrained from expanding into protected forests, one option for farmers facing increased demands is to intensify existing agriculture. However, agricultural intensification in the landscape can greatly increase emissions in the form of carbon (e.g., from intensive soil tillage or eliminating fallows) or the far more potent greenhouse gases (GHG) methane and nitrous oxide (e.g., from nitrogen fertilization or livestock wastes), thus reducing the net climate benefits accruing from forest conservation. Table 1 shows three examples of the dramatic reduction in GHG emissions from the same farming system, of using climate-friendly practices—eight-fold in the corn-soy-wheat rotation in the United States.

REDD+ programs should actively promote agricultural intensification strategies that use best practices to reduce emissions and sequester carbon.

Thus comprehensive landscape monitoring of all emissions—not just forest cover—is needed. Analysis of the R-PPs shows that current REDD monitoring plans often include important aspects such as rural livelihoods, conservation of biodiversity, and key governance factors, but no indicators of agricultural practices or agricultural land use linked with REDD+ program adoption.

REDD+ financing should be linked to agricultural development financing. A core REDD+ financing strategy is for government or others to pay individual landowners or groups of people to protect a forest. However, this approach will be effective under a narrow range of circumstances. In the context of all rural development investment needs, REDD+ flows will be modest, and their impacts easily undermined if other flows of financial incentives within the landscape encourage deforestation. REDD+ programs thus must position or link REDD+ financial resources

strategically and catalytically with these other, much larger flows.

Carbon finance can be used to support a broad rural development framework that includes forest protection, securing tenure rights, and carbon-rich farming. Funds could go to integrated landscape planning exercises, extension support for sustainable agriculture practices or agricultural intensification where these interventions are likely to take pressure off forests. REDD+ finance could be applied creatively in rural credit programs, to direct agricultural lending to low emission practices and farmer conservation of forests, or to mitigate farmer risks in the transition to climate-friendly systems.

Policy Recommendations for REDD+ Program Design

The implication of the above analysis is that REDD+ mechanisms should be designed and implemented within a broader landscape frame. This concept of landscape-scale REDD+ has been called REALU-Reduced Emissions from All Land Uses by the World Agroforestry Centre (ICRAF) and others.²

Recommendations to enable such REDD+ programs include:

1. Adjust design to the agricultural context of forests.

REDD+ programs will need to be designed very differently depending on the type of agriculture practiced in the areas adjacent to the

forest, the type of land users, and the long-term agricultural drivers of land use change. Place-specific strategies are necessary to harmonize farm and forest policy.

2. Conduct detailed spatial analysis to implement spatially-targeted action.

With an understanding of land use across the landscape, carbon mitigation interventions can be targeted to the areas that will provide the greatest benefits to farmers, foresters and ecosystems. These interventions will not always coincide with the most carbon-rich approach per unit land area.

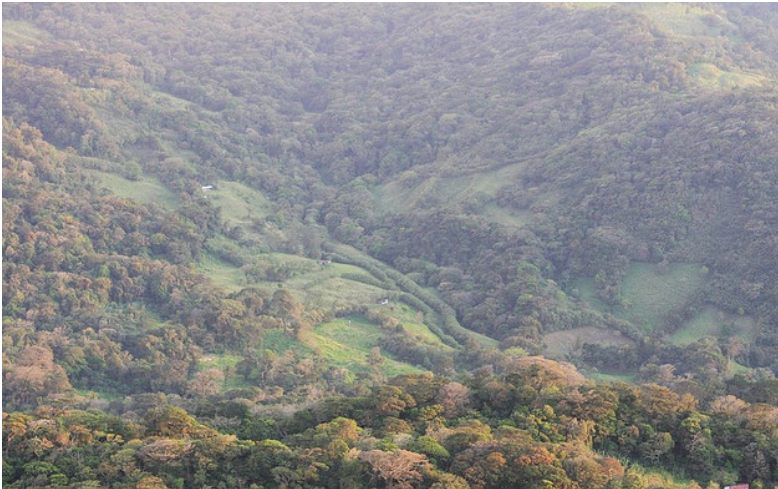
3. Secure the tenure rights of farming and forest communities.

Without clearly defined and secure tenure rights, land use carbon projects are unworkable. Different farm-forest rights relationships raise different concerns about rights and thus require different REDD+ strategies and governance mechanisms. With a secure rights-base, farmers and foresters are known to be innovative, practical and flexible – important for adapting to climate change, not just mitigating it. Jurisdictional rights must be clear and coordinated.



2. See van Noordwijk et al.

Rice plantations nestled between the forest and the coast in Deo Hai Van. Photo Credit: Steven Gregory



Costa Rica's tropical jungles have been fragmented intensively over the last century. The communities surrounding Monteverde have been particularly active in promoting sustainable agriculture and grazing. However, these efforts are not embraced by all farmers. For landscapes to function as integral mosaics of biodiversity, agriculture and pastures, all players must communicate and work together to reduce impacts of land use. Photo by Nathan Dappen

4. Integrate agricultural development with REDD+ on a landscape scale, and explore options for utilizing REDD+ funds for creative agricultural investment strategies. Given that most REDD+ initiatives will be implemented within agricultural landscapes, they should be coordinated with broader agricultural development strategies. With this framework, REDD+ investments can be directed creatively to catalyze agricultural investment that supports forest conservation and reduced net landscape emissions. For agricultural policymakers, agribusiness and farmers' organizations, REDD+ should present an opportunity to shift towards a more

sustainable, climate-smart agricultural development strategy.

5. Develop inter-sectoral policies to manage the relationships between the forest sector and agricultural sector. National and regional policy dialogue and collaborative policy development is necessary to support strategies that integrate forest protection with surrounding land use, and realize cross-sectoral synergies.

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The Rights and Resources Initiative (RRI) is a strategic coalition comprised of international, regional, and community organizations engaged in development, research and conservation to advance forest tenure, policy and market reforms globally.

EcoAgriculture Partners, an international nonprofit organization, is dedicated to supporting diverse actors at the local, national and international levels to create and sustain ecoagriculture landscapes worldwide. EcoAgriculture envisions a world where agricultural communities work with conservation, business, government and rural development partners to manage their landscapes to simultaneously enhance rural livelihoods; sustainably produce crops, livestock, fish, and fiber; and conserve biodiversity and ecosystem services.

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