



1.2 Governance and large-scale investments in forested landscapes

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More than ever, customary lands and forests in the global South are embedded in the global economy. Recent spikes in commodity prices, the influence of emerging economies on the global demand for raw materials, and growing concerns about energy security have led to attempts by major consumer countries to secure long-term access to land and its products. Heightened interest in land-based investments has led to a surge of foreign investment in developing countries, where land can be obtained at lower economic and opportunity cost.

Forests, woodlands and mixed-use landscapes are often targeted for agricultural expansion as a means to leverage benefits from land-based investments while avoiding the displacement of cropland. Increased investment is welcomed by host country governments for its opportunity to stimulate rural economies while fostering national economic development (World Bank 2011). It also poses risks, however, that need to be factored into national decision-making on whether and how to pursue economic development through large-scale, land-based investment (Achten and Verchot 2011; German, Schoneveld and Pacheco 2011).



THERE IS AN URGENT NEED TO EXPLORE MECHANISMS FOR GOVERNING INVESTMENTS TO ENHANCE SOCIETAL BENEFITS WHILE MINIMIZING RELATED COSTS.

Ironically, mounting evidence about the positive and negative impacts of this investment seems to have done little to promote a balanced consideration of how to govern the trade-offs that inevitably characterize these investments. It is important to recognize that for developing countries with relatively large areas of natural forest, the question is seldom how to safeguard remaining forests, but rather how to ensure concrete benefits from forest conversion (that justify its costs). And from the perspective of a government planner, environmental cost may not even be considered. This is particularly true for dry forests, where histories of human use are often assumed to have eroded any economic or ecological value, but also in humid forests, where existing land uses have contributed little to the formal economy.

Ideologies that simultaneously inflate the benefits of large-scale investment while minimizing its costs and assumptions about the benefits that are likely to accrue have left many of the challenges largely unaddressed. There is an urgent need to take a dispassionate look at the challenges associated with achieving policy goals related to land-based investments, and to explore mechanisms for governing land-based investments for societal benefit while minimizing its costs.

This article explores the extent to which the anticipated benefits associated with the growing biofuel industry and the wider trend in land-based investments have materialized. Findings are based on comparative research on the social and environmental impacts associated with the recent expansion of biofuel and multi-purpose feedstock¹ in forests and woodlands in six countries (Ghana, Zambia, Indonesia, Malaysia, Brazil and Mexico), and the policy and institutional frameworks that govern these impacts.² The work was carried out by the Center for International Forestry Research and partner organizations.

Environmental impacts

In cases involving industrial-scale business models, the expansion of multi-purpose feedstock was directly associated with deforestation in most case study sites. The proportion of biofuel feedstock expansion occurring at the expense of forests ranged from 13–99% of the total area (German, Schoneveld and Pacheco 2011). The highest rates were observed for oil palm plantations in Indonesia. The lowest rates were for soy in Brazil, where a combination of stringent government regulations on forest conversion, the use of satellite imagery to monitor compliance, and a moratorium on soybeans grown in newly deforested areas have gone a long way to minimize forest conversion for agricultural expansion. The multi-purpose nature of oil palm and soy means that only a small proportion of deforestation may be attributable to the biofuel sector per se. These findings nevertheless illustrate the risks associated with these and other agro-industrial crops that currently penetrate forest landscapes.

In some cases, biofuel feedstock had expanded into secondary forest and fallow. Genuinely degraded land was not targeted for cultivation in any of the cases. This finding is partly due to the research emphasis on feedstock expansion in landscapes with significant forest and woodland cover. Equally important, however, is the tendency by producer-country governments and industry to target forests and woodlands for agro-industrial expansion as a way to minimize negative effects on food security, avoid the challenges associated with land appropriation and resettlement, and maximize timber revenues (Casson 1999).

Whether these concerns are real or overstated remains largely an unanswered question, and rests on the choice of business model; smallholder production has very different social and environmental implications than industrial-scale plantations. Furthermore, there is a tendency to assume that landscapes shaped by histories of timber extraction or fire as management tools are by definition “degraded.” This continues to downplay the ecological value of forests and woodlands, and thus the costs associated with forest conversion.³ The profit motive also deters those investing in biofuel feedstock production

from targeting degraded land.⁴ These factors illustrate the challenge of finding contiguous areas of degraded land and getting producers to focus exclusively on them.

Diverse ecological costs are associated with forest conversion. In addition to the biodiversity losses cited in the literature (e.g., Danielsen et al. 2008), local people identified several environmental impacts that directly affected their livelihoods. These included a decline in air and water quality due to factory effluent/emissions and land cover change; an increase in crop and human pests and disease; degradation of protected forests due to encroachment, harvesting pressure and fire; and increased flooding in cases where peatlands were converted.

Yet from the perspective of the expanding biofuel industry, the implication of these forest conversions for the climate mitigation potential of biofuels is paramount. Significant carbon debts were found to accrue from direct and total (direct plus indirect) land-use change, ranging from 254–1579 tonne/ha CO₂ equivalent (eq.) and 266–1744 tonne/ha CO₂ eq., respectively (Achten and Verchot 2011). Although significant carbon debts accrued in all sites involving forest and woodland conversion, the larger debts were derived from sites where carbon-rich peat swamp forest was converted (West Kalimantan, Indonesia).

Total carbon debts associated with *jatropha* (an oil seed-bearing shrub) and soybean were significantly lower than other feedstock; however, where indirect land-use change is significant (e.g., greater than 50%) carbon debts were estimated to reach levels similar to those for oil palm. Carbon debts were found to postpone net greenhouse gas reductions from biofuels by 18 to 629 years, raising the question of whether it is justified for biofuel feedstock cultivated in pristine or “degraded,” humid or dry forest landscapes to carry a “green” label.

Socio-economic impacts

Evidence of the local social and economic impact of biofuel feedstock investments suggests highly differentiated impacts, depending on one’s position relative to the investment, and on the specifics of the site. For industrial-scale plantations, it is essential to explore the differential impacts experienced by plantation employees, those losing land or resources to companies, and contracted growers. The voluntary nature of employment and the scarcity of regular cash income in many rural areas have meant that livelihood impacts from formal employment tend to be positive among those capable of securing formal plantation employment. Benefits may be due to net increases in household income, social services available to employees or more regular income flows. Yet net benefits to employees do not always accrue. Poor working conditions — coupled with difficulties making the shift from traditional livelihood activities to wage labour — led employees from more traditional communities to perceive net declines in their livelihood conditions.



Unlike employees, customary rights-holders who lost land to investors tended to experience net negative effects on their livelihoods. This was particularly true for sites where land transfers were characterized by the transfer of large areas by customary leaders (with rights affecting many households that held less secure, often derived,⁵ rights), and less so in the case of voluntary transactions among individual buyers and sellers.

Economic losses stem from the loss of agricultural and forest income and from difficulties in reconstructing livelihoods. Although land transfer often involved some compensation, the potential for this compensation to translate into livelihood opportunities for the affected households has largely failed to materialize. There are several reasons for this: variability in the compensation paid to different communities; delivery of goods and services of inferior quality; and poor governance of payments received within affected communities. Furthermore, investors rarely seek to offset losses by channelling other economic benefits to affected households. In several case studies, companies preferred to hire labour from outside the area, to the great disappointment of the affected land users.

In the case of small-scale growers, growing feedstock on contract to larger operators can provide access to inputs and services that they may otherwise have had difficulty acquiring, due to capital constraints. Yet evidence from several countries suggests that those

with more land or capital are better able to capture these opportunities. And in the emerging *jatropha* industry, unfavourable terms in smallholder contracts and uncertain markets led to a situation in which smallholders were bearing much of the risk of an industry trying to get on its feet.



Recognizing that governments who seek to foster economic development may downplay such impacts in light of such wider policy aims, it is important to look at what wider economic spillovers accrue. Employment benefits can also be appraised in terms of their net

economic effect, irrespective of who receives these benefits. In highly mechanized industries, employment levels are generally low and whether the net effect is positive will depend on the number of people who were previously sustained on displaced land uses.

At the only site where returns to land before and after the investment were assessed, greater returns were accrued from displaced land uses than from formal employment. This illustrates that net livelihood benefits should not be assumed. Furthermore, an analysis of legal and institutional frameworks in the case study countries highlights the generous fiscal incentives used to attract investors or develop domestic industries, raising the question of whether a shift to agricultural land uses and the formal sector carries a net benefit in revenue.

Reasons for unfulfilled promises

Biofuel development in three of the six case studies (Ghana, Mexico and Zambia) is in the early stages of development. Several other factors were also found to be responsible for the disconnect between the promise of land-based investments and the actual benefits.

Assumptions about net benefits

Host country governments are making a vigorous effort to attract investment, through the establishment of investment promotion centres, assistance with land acquisition, generous tax incentives and strong political support from the highest echelons of government (Cotula et al. 2009; German, Schoneveld and Mwangi 2011; World Bank 2011).

This is based on a strong belief in the potential of industrial-scale investments as an engine of economic development through import substitution, foreign exchange earnings, technological spillovers to domestic industry, job creation and opportunities for smallholders. It is also bolstered by a tendency among government officials to downplay the social and environmental costs associated with forest conversion by targeting lands assumed to be “degraded,” “abandoned” or “unproductive” (despite their often-important livelihood functions). Yet it is not just ideologies of cost and benefit, but assumptions about the guarantee of net benefits, which propel government confidence in agro-industrial modes of development.

Weak enforcement and lack of binding conditions

A second reason for the under-performance of land-based investments is weak enforcement of social and environmental standards or safeguards and the absence of binding conditions on investment. Although national legislation on environmental impact assessment and community consultations and compensation in the context of land transfer are often relatively comprehensive, actual practice is often a far cry from policy aims and legislation (German, Schoneveld and Mwangi 2011). Furthermore, with central and district governments under pressure to generate revenues and promote economic growth and poverty reduction, tension arises between government mandates: promotion on the one hand, and regulation on the other. This creates a regulatory vacuum that allows economic operators to act with impunity (German, Schoneveld and Mwangi 2011).

A plethora of market-based instruments has been developed in recent years. These instruments are put forward as an alternative way to regulate the social and environmental impacts of investments. They hold promise for addressing some of the governance shortfalls of host country governments; for example, by making compliance with national laws mandatory.⁶ However, the voluntary nature of these instruments — and their uneven sectoral coverage (e.g., biofuels but not food, feed or fibre) — significantly limits their potential to govern industry practice as a whole.

Furthermore, the rapid proliferation of instruments by individual companies, and to a lesser extent by industry associations, currently threatens to water down standards and undermine their effectiveness by substituting self-regulation for a system of independent checks and balances (German and Schoneveld 2011; Sethi 2005).

The requirements of consumer countries have the potential to further strengthen industry standards, as evidenced by the sustainability standards promulgated through the EU Renewable Energy Directive. This potential is limited, however, to the scope of sustainability criteria employed and to the proportion of wider markets that these requirements apply to (German and Schoneveld 2011).

And while the use of investment protection agreements by host countries holds the potential for generating a social contract to secure long-term benefits from investment, where binding conditions and monitoring are absent, the economic and technological spillovers — and often the realization of the investment itself — will in practice be left to the discretion of investors.

Local governance challenges

A final set of challenges is local. Legislation and practice often confer high levels of discretionary authority on local and customary leaders in making decisions about whether to transfer land to investors, and under what conditions. This has the potential to strengthen rural self-determination, but the limited accountability of local and customary leaders to their people has often undermined this potential. Frequently, despite constitutionally mandated responsibilities to act on behalf of wider constituencies, decisions seem to be made based on chances for personal gain rather than collective interests (German, Schoneveld and Mwangi 2011).

High levels of rural poverty, limited opportunities for cash income throughout rural communities in the global South and a lack of experience in negotiating with powerful outsiders have meant that affected households often have expectations that are either unrealistic or not backed up by legally enforceable agreements. The failure to discuss at the outset who will have access to the jobs or social services promised by investors or the quality of those benefits, for example, tends to create disappointment at the time of implementation. Greater foresight would in most cases have altered the decision on whether or on what terms to transfer customary land to investors.

The above findings suggest that the benefits that accrue to affected households often depend more on the benevolence of the investor than any formal instrument of governance.

Acknowledging and governing trade-offs

There is an urgent need to explore mechanisms for governing large-scale, land-based investments in forests and rural areas of the global South to leverage their potential while avoiding unnecessary social and environmental costs. Recent research suggests a few fundamental steps.

It is essential that those with decision authority acknowledge the real costs associated with land-use change and transfer in land ownership and control from local communities to investors or the state. They must also consider the challenges associated with realizing established policy aims. This will engender the political will to take subsequent steps.

It is also essential that choices be systematically evaluated for their social, economic and environmental costs and benefits and their acceptability to different sets of actors, most notably local communities (in terms of local livelihood benefits) and citizens at large (wider economic benefits). Assumptions about the relative merits and demerits of various business models (large plantations, smallholder production and diverse hybrid arrangements) and land-use change (forests, degraded land and cropland conversion) must be set aside to allow an accurate evaluation of costs and benefits.

Any choice will involve trade-offs and both winners and losers. A multi-stakeholder dialogue is fundamental. It can enable the identification of “no go” options, suitable compensation and livelihood reconstruction options for households whose means of subsistence has been displaced, and land-use options with potentially high benefits and costs that are acceptable to a majority of actors.

These choices will involve acknowledging the challenges in achieving anticipated benefits as well as the costs. A critical evaluation of governance instruments (state and market-based, promotional and regulatory) is also needed.

It should be assumed that no benefits are likely to accrue and no costs avoided without proactive efforts to align investments with relevant policy aims, and without systematic monitoring and adjustment as governance instruments are tested in practice. Such changes will require concerted political will from host and investor countries and civil society, as well as funding for capacity building and governance reforms. In the meantime, since these changes are likely to require more time than what the current pace of land acquisitions allows, temporary moratoria on certain types of investments may be warranted.

Endnotes

1. Feedstock is biomass partially or fully destined for conversion to biofuel.
2. These case studies may be viewed at: www.cifor.org/bioenergy/_ref/research/output/published-document.htm and www.ecologyandsociety.org/issues/view.php?sf=68.
3. While there may be truly “degraded” forest that has lost much of its ecological and economic functions of concern to customary rights holders and outside economic agents alike, this is an exception to the rule.
4. For degraded forest on otherwise productive agricultural land, this means loss of revenue from timber and other forest products; for land that is degraded from an agronomic standpoint, this means lower returns on investment.
5. Derived rights are those that accrue to an individual but originate in and depend on their relationship with another person, usually through parenthood, marriage or cohabitation.
6. This is the case for four of the seven biofuel certification standards recently approved by the European Community for verifying compliance with the EU’s Renewable Energy Directive: Bonsucro, International Sustainability and Carbon Certification, the Roundtable for Sustainable Biofuels, and the Roundtable for Responsible Soy.

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