4.8 Landscape effects of supply chains

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Introduction

The goal of a landscape approach is sustainable resource management and benefits for all stakeholders. Given the number of actors who have a stake in implementing a landscape approach, it is crucial to have a clear understanding of what is expected of whom. The private sector is in a position to adopt sustainable business practices, but requires legislation and policies that are transparent and equitable. Such an enabling environment can change market dynamics.

The stakeholders involved in the supply chain and the nature of their relationships are different from those in the broader landscape. Various levels of governance affect these stakeholders and can support (or limit) coordinated resource management. Support — in terms of knowledge, service providers, infrastructure and institutional capacity — is the critical element in ensuring sustainable supply chains and productive landscapes.

Stakeholder relations

Both producers and end users of agricultural products benefit from secure access to resources and safe, high-quality produce of traceable origin. Supply chain actors depend on each other; relationships are based on clear expectations and agreed terms. Within the supply chain there are also issues of responsibility and assurance, but there are mechanisms by which these issues can be dealt with.

Sustainable practices in supply chains relate to the wider landscape.

In the landscape context, stakeholders are likely to compete over resources such as forest, land and water, especially when the use of resources by one person or group negatively affects another. A landscape is more than a physical space; it involves a variety of actors and their impacts on each other and on the environment. Unlike the supply chain context, there is not necessarily a shared goal or process by which these actors interact. Only when the landscape and its sustainable use and management are perceived as the shared responsibility of everyone involved can there be a coordinated effort "… to achieve social, economic,

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and environmental objectives in areas where agriculture, mining and other productive land uses compete with environmental and biodiversity goals" (Sayer et al. 2013: 1).

Governance: shaping markets and landscapes

Governance, as defined by Bevir (2013), refers to all processes of governing, whether undertaken by a government, market or network, whether over a family, tribe, formal or informal organization or territory and whether through laws, norms, power or language. At a country level, the state government provides legislation with respect to natural resource use and policy for socio-economic development, which together form a governance framework for individuals and organizations. The degree of centralization in a country determines the actual actors and their authority and responsibility; these vary from federal- and state-level government down to the municipal and community level.

In addition to government, global market and private-sector governance is determined by a combination of national and international regulations and by voluntary sustainability standards for compliance with criteria to ensure quality and sustainability.[1] Companies have an incentive to commit to such schemes in order to get access to preferred markets and position themselves as frontrunners in their sector. For companies, or the sector at large, voluntary standard initiatives are a way to improve business performance and limit negative social and environmental effects. Some efforts go beyond legal compliance, for example, with a commitment to zero deforestation after an agreed cut-off date.

Despite the structures provided by government and markets, it is still challenging to implement and enforce laws to meet set criteria of good practice. Weak land administration and a lack of law enforcement show how government capacity at the level of implementation could fall short. For the private sector, this situation poses risks as well as opportunities. It is hard to comply with laws and standards due to a lack of functioning procedures, but at the same time this absence of control may allow them a free rein in their operations. Governance gaps result in situations where the responsibilities of government and market parties to regulate and control negative impacts in the landscape are unclear.

Private sector: impact and responsibility

Companies have a direct responsibility for their supply chain and sourcing area to comply with legal requirements. They also have to assess their impacts on society and the environment. The UN Principles on Business and Human Rights, also known as the Ruggie Principles, clearly define the responsibility of the private sector.[2]

The Ruggie framework has three pillars:

- the duty of the state to protect against human rights abuses by third parties, including business enterprises, through appropriate policies and regulation;
- the responsibility of private sector to respect human rights. This means that business enterprises should act with due diligence to avoid infringing on rights of others and to address adverse impacts associated with their activities; and
- greater access to effective remedies, both judicial and non-judicial.

The Ruggie Principles emphasize that responsible business practices clearly have to be part of the social and governmental context in order to succeed and make positive contributions to society. The following two case studies[3] show the interdependency between responsible business from the supply chain perspective and good governance at a landscape level.

Case study 1: Plantation company in tropical rainforest landscape

A large-scale plantation company in a tropical rainforest landscape set high sustainability standards for its own operations as well as for its associated outgrowers and smallholders. The first challenge was to ensure legal compliance, not only for the company; land administration and environmental licences are required for all suppliers. Beyond legal compliance, the aim is to achieve compliance with the leading commodity standard, carrying out good agricultural practices and meeting additional social requirements in terms of housing and facilities for staff and workers. Solidaridad supported the company with technical training for certification of smallholders in particular.

Landscape context

In the forest landscape where the company is located there are many high conservation values to consider, such as a rich variety in vegetation and species, riparian strips and protected waterways, as well as high carbon forest stock. The state authority is responsible for ensuring that resource use complies with law and environmental protection measures. The area has a relatively low population density. Economic activity is based on mineral extraction and to lesser extent on agriculture, livestock farming and industry. Despite some economic growth in the region, there is major social, economic and environmental imbalance and living conditions are difficult. Expanding industry, agriculture and rural settlements have major environmental impacts, including deforestation and land degradation.

Agricultural expansion and markets

Other companies have begun operations in the landscape over the past decade. The area of land used for agricultural production has increased in response to growing domestic demand for consumer products and biodiesel. While front-runners follow leading standards in their sector, other producers carry on business as usual, without providing assurance that basic social and environmental requirements are met. On the market side there is a similar disparity in sustainability performance: some international brands demand certified produce to meet their sourcing requirements and commit to zero deforestation, while the majority of market players purchase commodities with no questions asked about origin or practices.

Market demand drives sector growth and provides opportunities for employment and investment in the region, but companies are not required to meet any standards for

sustainable production. As a result, companies with the highest standards must compete with companies that operate with lower environmental and production standards. Instead of careful land-use planning, based on the suitability of soil and the availability of arable land, new companies plant in secondary forest and on land that has been burned. In addition to environmental damage, these practices bring risks for the individual producers who are under contract to the larger companies. If their planting does not yield sufficiently due to these challenging circumstances, they will not be able to pay back their loans.

Impact and influence of the private sector on the wider landscape

Within the scope of its operations, the case study company takes full responsibility for legal compliance and good social and environmental practices. Its agricultural practices ensure efficient resource use by applying agricultural inputs in a timely and moderate manner. Integrated pest management and well-planned replanting and harvesting contribute to high productivity and to limited environmental impacts on soil, water and biodiversity. From a social perspective, the company provides jobs by hiring employees from local communities. For smallholders who become suppliers to the company the new source of livelihood brings an alternative to traditional slash-and-burn practices; this saves approximately five ha of land per farmer per year.

Moreover, the company is committed to support its suppliers; it works with outgrowers and smallholders to achieve sustainable practices and full compliance with social and environmental legislation, as required under the commodity standard. The company took the lead in collaborating with the municipal and state government and the local bank to provide the necessary capacity and financial support. This included assisting producers to acquire an environmental licence from the municipality and ensuring the required set-aside of forest in compliance with environmental law. These efforts contribute to the protection of forests, riparian strips and biodiversity hotspots in the area.

Despite these efforts, there are limits to the influence of private-sector actors in the landscape context. In order to stay in line with the commodity standard and the deforestation cut-off date the company had to carefully screen smallholders against criteria that might negatively affect future certification. Past practices of smallholders — such as clearing of land, deforestation, burning, and lack of land titles and permits — were critical issues that could become a liability to the company. This meant that only a limited number of the smallholders who applied could participate. In this way, improvements to supply chain performance can result in the exclusion of underperformers. It remains an open question who else, besides the company, should then support small-scale farmers to improve their livelihoods and protect the environment.

An even higher risk for the production landscape comes from the operations of those companies that show no concern for sustainability while scaling up their impacts. This has resulted in deforestation and illegitimate expansion, despite existing environmental legislation and land-zoning policy. This situation also affects the frontrunner position of the case study company, since it is confronted with unequal circumstances and fierce competition. Failure to enforce the law allows these developments to take place.

Case study 2: Agricultural production bordering a national park

Solidaridad has supported a number of producer organizations to adopt more sustainable practices in soy production. The aim was to increase the production of soy by family farmers and introduce more sustainable practices, with lower impacts on the environment. The project started by bringing together 900 producers of non-genetically modified (GM) and organic soy, who agreed to participate in the process of Round Table on Responsible Soy certification. Financial support was provided by end market users in the Netherlands. Municipalities, government agricultural extension services and producer organizations, who all contribute to outreach to farmers, were involved in the project.

Landscape context

The project engaged farmers in the municipalities bordering a national park, a biodiversity-rich area that includes the protected waterways of the region's major river. The use of pesticide in the area was identified as a major issue; it posed a threat to the environment and to local organic crop production. After GM soy was legally allowed in 2006, organic farmers were confronted with an increase in GM soy production and in pesticide use. Both the organic trade company and producer organizations in the area wanted to respond to these developments and emphasize the strategic importance and environmental value of non-GM and organic production.

Soy sector development

Several changes in recent years have affected soy production in the region. Since 2006, many family farmers shifted from conventional and organic soy to GM soy production. This is partly because of rising market pressure, and partly to avert the risk of contamination from GM crops. The demand for soy for biodiesel increased as a result of a state programme to support family farmers; it offered a price premium for soy without any requirements on how it was produced. Neither government nor the market set minimum standards for sustainable agricultural practices among family farmers. This has made it increasingly difficult to engage farmers in the project and improve their environmental performance. If these farmers were provided with support in professional skills development, they could benefit hugely from improved farm management, both in terms of livelihoods and in sustainable resource use.

Impact and influence of producers on the wider landscape

It became clear during the project that technical support was helping organic and conventional producers make on-farm improvements. The use of pesticides was significantly reduced. As a result of training in agricultural practices, farmers became better informed about the correct use of pesticides, protection measures in the field and safe storage. With this knowledge, they are better able to make informed decisions on

their use of inputs. The planning of crop rotation and land management also improved. Erosion, caused by the heavy rains in the region, has been tackled by flattening slopes and creating grooves and terraces to prevent run-off and increase infiltration.

Although farmers contributed to more sustainable management of the landscape, their participation is vulnerable to external forces. The number of farmers involved in the project dropped from 900 in 2009 to 400 in 2012, as many of them switched to GM soy production. By 2013, only 200 farmers were still involved, with an average farmed area of 15 ha each, producing up to 9,000 tonnes of certified soy from a total 3,000 ha.

The project was valued by those involved, with good participation and uptake in best practices, but the interventions could not compete with economically attractive GM soy and biodiesel premiums. Technical assistance and services, including inputs and credit, are commercially oriented and aggressively promote GM soy production. This raises both social and environmental concerns. There is a need for technical assistance to provide farmers with information about decision-making at the farm level. There is potential for individual producers to contribute to well-managed production landscapes, but if efforts are not coordinated in a cohesive way or supported by policy, market and institutional capacity in outreach to farmers, they cannot reach the desired effect in scale and impact.

Conclusions

Solidaridad is exploring opportunities to test landscape-modeling tools and interventions in ongoing farmer support projects to build on the positive impact of on-farm interventions and to start to address those issues that go beyond the farm level and company supply chain. This entails strategic engagement with local government, an understanding of policy implications at various levels and stakeholder dialogues between people who until now have not worked together.

Such dialogues bring forward a variety of perspectives and needs, and also help identify shared issues and possible solutions. This type of exchange, with input from research and information technology, also spurs new ways to overcome institutional barriers and address weak spots in governance. Responsibilities can be reassigned; for example, by training local community patrol groups in the use of mobile GPS devices to increase control in protected areas, or by building on the work of farmer organizations as service providers and policy advisors. Such collaboration and exchange of information provides direct feedback from the field on policy implications and future policy development.

Author note

The views presented in this article are the personal opinions of the author.

Endnotes

1. Initiatives include the Round Table on Sustainable Palm Oil (RSPO) and Round Table on Responsible Soy (RTRS).
2. See Human Rights Council: Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework (2011). Source: www.business-humanrights.org/media/documents/ruggie/ruggie-guiding-principles-21-mar-2011.pdf.
3. Case study examples are based on the experiences that Solidaridad gained in project collaboration with private-sector partners over the past years in various countries. In consideration of ongoing activities, company details and locations have been omitted.

References

Bevir, Mark. 2013. *Governance: A Very Short Introduction*. Oxford, UK: Oxford University Press.

Sayer, J., T. Sunderland, J. Ghazoul, J-L. Pfund, D. Sheil, E. Meijaard, M. Venter, A.K. Boedhihartono, M. Day, G. Garcia, C. van Oosten and L.E. Buck. 2013. "Ten principles for a landscape approach to reconciling agriculture, conservation, and other competing land uses." *Proceedings of the National Academy of Sciences* Vol. 110, No. 21, 8349–8356. doi: 10.1073/pnas.1210595110.