

Landscape
 ecosystem
 services

Labelling rural landscapes

Emmanuel TORQUEBIAU, Claude GARCIA, Nathalie CHOLET

Landscapes are designated as heritage sites because they are either outstanding, threatened or neglected. But what about the rural landscapes that provide agricultural products and environmental services? Awarding them a label and rewarding the people who shape them with payments for environmental services (PES) would be a way of recognising their value.

The landscape, an aesthetic place of interest, is also a subject of research in several disciplines, including agricultural studies and rural development sciences. The productive rural landscape, combining environmental characteristics and agricultural production – which we will call the “multifunctional landscape” – is the subject of attention, as it can help to address two current challenges: food security and biodiversity conservation. This kind of landscape is a socially determined area presenting spatial characteristics (heterogeneity, fragmentation, connectivity between its elements, and interaction networks) that give it its environmental qualities.

Outstanding landscapes are recognised as forming part of our heritage: UNESCO World Heritage and Biosphere Reserves; *Grand Site* label (France). Threatened landscapes are also protected by the Euro-

pean Landscape Convention or by the *Paysage de reconquête* label (French Ministry of Ecology). The productive dimension of landscapes is taken into account through different initiatives, such as the FAO Globally Important Ingenious Agricultural Heritage Systems (GIAHS) or the Japanese government’s Satoyama Initiative, which identifies socio-ecological production landscapes, mosaics that associate habitat, land use and biodiversity conservation.

But what about multifunctional landscapes? Their composite nature may exclude them from these approaches. It is important to find a means of recognising their value so that the people responsible for them have an incentive to maintain their originality and diversity, even though they may consider them to be just ordinary landscapes.

perspective

Through *Perspective* CIRAD provides the opportunity to explore new avenues for discussion and action based on research and expertise, without presenting an institutional position.

Recognising the value of multifunctional landscapes

Multifunctional landscapes may help to address two challenges: food security and biodiversity conservation.

Labelling (or certification) is a sign of recognition that singles out a product or service and certain of its qualities. It is aimed at third parties, most often consumers or intermediaries between suppliers and users, such as shopkeepers. A label may guarantee a service, a product, a production and processing system, or an ecological or social characteristic. The advantage of labels attached to products or services is that they help to increase the income of producers capable of complying with strict specifications.

Landscape labelling does not target a particular product, but rather the processes that lead to the existence of the landscape and enable the protection of its ecosystems as a whole: for example, forests subject to human action, when they are just one part of a landscape mosaic. The original idea was proposed in 2009 in an article in *Forest Ecology and Management* (Ghazoul et al., 2009), suggesting that landscape labelling is a specific type of payment for environmental services (PES). A PES pays an economic operator for a service provided to other operators by means of a deliberate action aimed at preserving, restoring or increasing an agreed environmental service (Karsenty, 2011). By including environmental objectives in land use decisions, PES make a connection between the maintenance and restoration of ecosystem functions and improvements in living conditions, or even poverty alleviation. Watershed protection, atmospheric carbon fixation by plants and biodiversity conservation are classic examples of PES.

PES and labelling are both mechanisms that can reward operators who are willing to comply with specifications during a production process. However, labelling a product or process does not necessarily entail the explicit objective of biodiversity

conservation, and PES requires a complex institutional payment mechanism.

Combining labelling and PES makes it possible to unequivocally incorporate the objective of biodiversity conservation, which is absent from labelling, and to ensure users or third parties pay the value added of a labelled landscape. This provides a means of recognising and certifying the existence of resources and management processes that comply with specifications, and of promoting products and services that originate in this landscape, rather than just one specific product. This is a considerable challenge, with significant repercussions on the environment and development. Planning and action must involve different types of land use (agriculture, forestry and nature conservation), various commodities (annual, perennial, animal and plant) and numerous stakeholders (farmers, tourists and local institutions, among others).

Drawing up specifications

How can a landscape be labelled? The first stage is to draw up specifications describing the criteria that will characterise its multifunctional nature: for example a landscape mosaic that includes specific proportions of agriculture or forestry and interstitial areas, or a network of hedgerows separating fields. A reference framework for defining the specifications is provided by eco-agriculture (Scherr & McNeely, 2008). This approach concerns landscapes that associate agricultural (or forestry) production objectives with biodiversity conservation targets, in order to improve the living conditions of the rural populations that live there and maintain the landscapes. This concept is similar to that of the multifunctional area, but the latter does not necessarily entail nature conservation objectives.

To define the criteria of the specifications, an index may be used. Research in Southern Africa (Cholet, 2010) tested an

Planning and action must involve different types of land use, various commodities and numerous stakeholders.

The services provided by the actors belonging to the landscape can benefit from the label.

index that combines ecoagriculture criteria (conservation, production, institutions, well-being) and criteria for environmental services provided by landscapes (provisioning services, regulating services and cultural services). The index is calculated according to marks given by local actors during workshops and focus group discussions. Two multifunctional landscapes were compared. They associate objectives of agricultural production and biodiversity protection in very different spatial configurations linked to their history and to their socio-economic context. The Mathenjwa land in South Africa is a former homeland where agriculture and nature are closely interwoven. The Save Valley Conservancy in Zimbabwe shows a strong spatial segregation between production and protection areas.

On a scale of 0 to 1, Mathenjwa gets a global average of 0.66 and the Save Valley Conservancy 0.61. In both areas, environmental services score higher on average than ecoagriculture criteria. The highest scores were given to cultural services (0.84 and 0.75 respectively), and the lowest to living conditions (0.48) and institutions (0.51). These results show that Mathenjwa, a landscape that has a number of interacting entities, is considered more multifunctional than the Save Valley Conservancy, where conservation and production zones are separate. In addition to identifying criteria for the specifications, this first stage confirmed the feasibility of the principle of landscape labelling and showed that local stakeholders are interested in the approach. Next, reference metrics must be put in place by the dedicated institutions.

Once the “multifunctional landscape” label has been awarded, several situations may occur. If the producers have an emblematic product (such as grass-fed cattle, wild fruits or agroforestry products), it will be easy to take into account the value added linked to the label. If there is no flagship product, landscape labelling provides a

means of promoting all local products on the basis of a perceived quality linked to the landscape. An ordinary cereal crop, for example, could become a prized, and therefore more expensive, product because it comes from a labelled landscape. Beyond this, all of the services provided by the actors belonging to the landscape, including the associated environmental services, can benefit from the label: tourist services such as lodging with local residents, rural holiday cottages and *tables d'hôte*, eco-tourism and agritourism; or educational and awareness programmes, craft productions, local industries, and initiatives for the recognition of religious heritage (such as sacred forests).

Placing stakeholders at the centre

Establishing a label associated with PES requires permanent consultations between the stakeholders responsible for its effective operation. This is a prerequisite for the long-term construction of the process, and thus for the success of the label.

Multifunctional landscapes do not have precise geographical boundaries: their existence is based on parameters that are often subjective, sometimes linked to the collective action of stakeholders with different interests, rather than simply on biophysical criteria. Moreover, experience shows that farmers do not always perceive the landscape level, especially in developing countries. They may spontaneously think about their field, or herd, without considering the landscape as a production system. A similar problem applies to environmental services and their payment: the global consequences of a local action are not always understood by the inhabitants, or do not concern them.

It is also important to be aware of the possible disadvantages, which were anticipated by the authors at the origin of the concept of landscape labelling (Ghazoul J., 2010): the complexity of processes linked to the

Permanent consultations between stakeholders are a prerequisite for the success of the label.

A few words about...

Emmanuel TORQUEBIAU is an ecologist at CIRAD (UR B&SEF, <http://ur-bsef.cirad.fr/>).

His research focuses on the linkages between agriculture and natural resource management, as well as on multifunctional landscapes. He is currently based at the University of Pretoria in South Africa, where he teaches and supervises students.

emmanuel.torquebiau@cirad.fr

Claude GARCIA is an ecologist at CIRAD (UR B&SEF, <http://ur-bsef.cirad.fr/>).

His research focuses on the interactions between public policies, local practices and ecological dynamics. After a long period working in India, he is now based at the Center for International Forestry Research (CIFOR) in Bogor, Indonesia.

claude.garcia@cirad.fr

Nathalie CHOLET is an agricultural engineer at Montpellier SupAgro.

After graduating in 2010, she continued her research on landscape labelling in Southern Africa in 2011 and is preparing an article with E. Torquebiau, forthcoming in *Landscape and Urban Planning*. She is currently a Volunteer for International Experience in Ghana.

natcholet@gmail.com

collective nature of labelling and to the payment mechanisms, which could lead to corruption and high transaction costs; the exclusion of producers who cannot comply with specifications.

How can local operators be convinced that it is in their interest to reproduce the characteristics of the landscape in the long term? After having identified the local leaders, stakeholders must be encouraged to work together to draw up the specifications, identify the products or services concerned, and determine marketing channels. Indicators must also be

specified to quantify environmental services. Researchers need to propose simple indicators to verify the ecological interactions permitted by the heterogeneity of landscapes based on an analysis of local practices.

Finally, the institutions that will give the label its credibility must now be identified or even created. The framework for consultation will need to be organised at the national and local levels, and auditing of the process must be arranged by an independent body with the power to award – or refuse – the label. ■

This issue of *Perspective* is based on research conducted by the authors on multifunctional landscapes in India and Southern Africa:

- Research by Claude Garcia focuses on forest and agroforestry landscapes in the Western Ghats in India. It led to the publication of the following article: Ghazoul J., Garcia C. & Kushalappa C.G., 2009. Landscape labelling: A concept for next-generation payment for ecosystem service schemes. *Forest Ecology and Management* 258: 1889-1895 (<http://www.fao.org/docrep/014/i2100e/i2100e06.pdf>).
- Research by Emmanuel Torquebiau focuses on multifunctional landscapes in transboundary conservation areas in South

Africa. E. Torquebiau edited the special issue of the *Journal of Sustainable Agriculture* on this topic: Torquebiau E., 2012. Introduction to the special issue: Reconciling production and conservation at the landscape scale. *Journal of Sustainable Agriculture* 36 (3): 271-274 (<http://www.tandfonline.com/doi/pdf/10.1080/10440046.2012.654904>).

- Research by Nathalie Cholet focuses on landscape labelling in Southern Africa (South Africa and Zimbabwe). It was conducted as part of an end-of-studies internship in agricultural engineering at Montpellier SupAgro, which was defended in 2010 (Cholet N., 2010. *Ecoagriculture landscape labelling: Case studies from Southern Africa*. MSc Thesis, IRC-SupAgro, Montpellier, France, 108 p.).



AGRICULTURAL RESEARCH
FOR DEVELOPMENT

42, rue Scheffer
75116 Paris . FRANCE

www.cirad.fr

perspæctive

Editor: Patrick Caron,
Deputy Director General of Research
and Strategy

Coordination: Corinne Cohen,
Department for Scientific and Technical
Information

Translation: Anna Kiff

Graphic design: Patricia Doucet,
Communication Service

Distribution: Christiane Jacquet,
Communication Service

Email: perspective@cirad.fr

TO FIND OUT MORE

Ghazoul J., 2010. Extending certification to landscape mosaics. *ETFRN News* 51: 182-187.

Karsenty A., 2011. La forêt tropicale, le mécanisme REDD et les paiements pour services environnementaux : un casse-tête écologique et socio-économique. <http://www.sfecologie.org/regards/2011/02/21/regards-r12-karsenty/>

Scherr S.J. & McNeely J.A., 2008. Biodiversity conservation and agricultural sustainability: towards a new paradigm of 'ecoagriculture' landscapes. *Philos Trans R Soc B* 363:477-494.

Perfecto I., Vandermeer, J. & Wright A., 2009. Nature's Matrix: Linking agriculture, conservation and food sovereignty. Earthscan.