A QUESTION OF DEVELOPMENT
20 JULY 2015
SYNTHESES OF AFD STUDIES AND RESEARCH

Agriculture, Forests and Climate Change: Can Labelling Play a Part?

INSIGHTS FROM ECONOMIC RESEARCH

The book, "*Changement climatique et agricultures du monde*" (Torquebiau, 2015), is the fruit of a collaboration on the current state of two themes that interest both AFD and CIRAD. In Chapter 22, Gaëlle Balineau and Sylvaine Lemeilleur outline how issues in economic research enable discussion on the ability of voluntary standards for sustainability to contribute to the governance of climate change.

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In the 2009 summit in Copenhagen, the international community agreed to mitigate climate change by assuring that global temperature will not increase more than 2°C between the pre-industrial period (1850) and 2100. The 2015 Paris Climate conference aims to determine the actions that each country shall implement to attain these goals. Parallel to this, the most recent report by the GIEC restates that greenhouse gas emissions from anthropogenic sources are one of the most significant causes of climate change and that twenty-four percent of these would come from the AFOLU (Agriculture, Forestry, and Other Land Use) sector.

Above and beyond its direct *contribution* to climate change, this sector, and more specifically, its agents (i.e. the people who work in agriculture and forestry) are at the centre of the debate on *adaptation* to climate change. For it is they who are hit hardest by climactic disruptions, which can mean increases in the occurrence of shocks just as much as increases in their intensity. To cite just one example, droughts and floods create insurance issues in countries in which agricultural risk management is based on crop diversification and peer networks—two mechanisms that become ineffective in the case of natural catastrophe.

In such a context, a question emerges: out of the tools already at hand, can eco-labels used in the agriculture, forestry, and food industries help fulfill climate change goals? Many economists consider greenhouse gas emissions to be negative externalities of production, consumption, and exchange. Environmental regulation usually makes recourse to two types of tools: legal ...

ones, which can mean banning the use of certain pollutants, and "market-based" ones, which can mean altering the incentives to pollute by taxing greenhouse gas emissions, for example. Implementation of such regulatory methods is difficult and costly, however, especially when the issues are collective and extend beyond national jurisdictions.

Socially responsible labelling, which is based on the idea of providing financial incentives to encourage the adoption of sustainable practices, appears to be a potential "third way" of regulation that relies in information provision (Tietenberg, 1998). Examining whether or not such labels can help meet climate change goals requires the consideration of several questions, of which the following three are especially important for development agencies: 1) Are the goals which eco-labels were originally designed to meet compatible with the efforts to attenuate and adapt to climate change?; 2) Is it effective to use eco-labels as a way to reach these goals?; and 3) Are there any negative effects of such usage?

Attenuation and Adaptation in Voluntary Sustainability Standards

In order to differentiate them from compulsory labels on packaged goods, such as nutritional labels in Europe, eco-labels are often referred to as "voluntary sustainability standards". They are based on a complex, multipartite system in which a private or public authority (such as an NGO, a government, or a group of companies) sets out its specifications in the form of a charter, a law, or even a brand. Often, the authority will take care of consumer relations and communications, and sometimes the inspection process as regards the companies and manufacturers who are permitted to affix the logo on their products. More often, however, a third party is called upon to conduct the inspection process that leads to certification.

Since the 1990s, quality and sustainability standards have taken on a heightened level of importance. Drawing upon the data in the Standards Map provided by the International Trade Centre, more than 150 such standards exist. Furthermore, Potts et al. (2004) explains that for the ten most-labelled agro-food products, the sixteen main voluntary sustainability standards accounted for 31.6 billion USD in 2012—which meant an average annual growth rate of nearly 50% between 2008 and 2012. As a comparison, the average annual growth rate in the corresponding international markets only reached 3%. In total, 40% of all coffee traded is eco-labelled, 22% of cocoa, and 9% of forestry products.

For the two latter categories, detailed assessments of the specifications (such as those conducted by Lemeilleur and Balineau in 2015) reveal that indeed, their elements do encourage: 1) Preservation of carbon sinks (*i.e.* forests); 2) Reduction of nitrous oxide emissions through the decreased use of fertilizer and chemical products; 3) Improvement of carbon storage in land by way of the adoption of measures concerning labour, ground cover, soil fertility, crop rotation, and the like; and 4) Optimization of energy consumption, especially fossil fuels.

Standards for climatic adaptation are also present, though somewhat less so. Reduction of risk and population vulnerability (safety nets, minimum price guarantees, crop diversification, and heterogeneity of revenue sources) are more frequently associated with standards of social responsibility or fair trade than with those that are environmental in nature.

THE MAIN VOLUNTARY SUSTAINABILITY STANDARDS

Source: Potts et al., 2014, only business-to-consumer standards

↗ 23% of the world's forested land is certified

Compensating for Negative Production Externalities By Way of Consumer Labels: A Paradox?

Eco-labels have similar aims as those of attenuation and adaptation. Believing that such goals can be attained means believing that consumers will change their behaviour once they have more information on the environmental quality of products, in addition to believing that eco-labels are able to provide such information.

The first assumption with eco-labelling has long since been considered unrealistic by economists who are accustomed to thinking that individual rationality is organized according to the Nash equilibrium, in which free riding occurs in response to the contribution to a global public good. Nevertheless, socially and environmentally responsible behaviours do exist. Studies in economy, sociology, psychology, and marketing tend to focus on the explanations for such behaviour; in particular they aim to evaluate its potential for regularity, durability, and growth. Questions follow: Above and beyond reported intentions, what are people willing to pay for a public good such as the attenuation of climate change? When an eco-labelled product is bought, is it really for its equitable and responsible nature, or for other reasons such as taste, packaging, and the like? What are responsible consumers' true motivations?[1]

The second assumption with eco-labelling is that it is able to deliver the information that consumers need in order to make climate-friendly choices. Balineau and Dufeu (2010) recall that in order to achieve such a goal, labels must be able to clear up not one, but two different consumers' uncertainties: first, they may not be able to judge if standards can really achieve their goals; and second, they are not sure that these standards are respected throughout the production chain.

As this second source of uncertainty stems from an asymmetry of information between producers and consumers, what is important is the ability to bring it to light in an honest way, be it though a system of self-declaration or peer-review, or through a system of third-party inspection by an accredited establishment. According to Balineau (2010), the reliability of such mechanisms depends on a number of parameters: the probability of detection of fraudulent claims in the former two cases (for example, by consumer awareness associations or by the media), and the credibility of the certification agency in the latter one (which is often ensured by public authorities).

That said, uncertainty does not entirely arise from the differences in information between producers and consumers: consumer trust often relies on the existence of experts who can attest to the ability of the recommended practices to achieve sustainable development goals. The main problem with climate change is that experts cannot always determine whether or not one practice is better than another.[2] In other words, it is not the asymmetry of information between producers and consumers, but the situation of shared uncertainty, whose clarification depends on ever more study.

Compensating for Externalities of Production via Eco-Labelling, Without Generating Adverse Effects: A Challenge

A third provision regarding the efficiency of labels is that they must not generate negative effects in terms of attenuation of climate change, of adaptation to climate change, or of development—which can be the case when practices are taken as a whole. Contrary to a system whereby payments are made for environmental services, in which remuneration relies on the services administered and not on the quantity of what is produced, financial incentives in the second system rely on the number of units sold. Yet this encourages the production of additional units, which can have adverse environmental effects. On the demand side, there is a similar problem, if individuals only consider the environmental impact of single units, and not their combined effect. Finally, given the costs incurred in the creation of such standards (program design, inspection, certification, communication, and the like), they can introduce disparities in terms of well being by including certain producers and not others.

[1] For a literature review, see Peattie, 2000.

[2] See the significant number of impact assessment studies for eco-labels (fair trade, organic, and the like), whose results are not always consistent with one another.

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The Threefold Legitimacy of Government-Run Development Agencies as Actors of Responsible Consumption

Above and beyond the pure research that must be done to identify relationships of cause and effect between different production practices and the environment, the earth's climate, and development, issues that stem from using labelling as a tool are far from being resolved:

• What are consumers actually ready to pay for? Could they be willing to go to the point of financing public policies of attenuation, adaptation, or development? What certification systems must we put in place in order to provide credible information from the consumers' point of view on the best way to contribute to sustainable development? Does such a type of trust relationship differ from country to country, product to product?

• Given the costs involved, is certification always synonymous with exclusion? Above and beyond the effectiveness of labels, are they efficient, especially when compared to other tools of regulation?

For funders, the answers to such questions are important because they are relevant to the execution of consumer-financed development policies. Support is also provided for the production and diffusion of the public good that is information on the effectiveness of practices that are deemed equitable, socially responsible, and/or environmentally friendly. Development agencies could be called on to produce and disseminate certain types of information themselves, because they have a significant amount of expertise to draw upon, and because they can put into place—either technically or financially, directly or indirectly—such information systems (certifications, audits, consumer interest groups, and the like) in countries that are deprived of them.

SUSTAINABILITY LABELS AND OFFICIAL DEVELOPMENT AID

Labelling is a form of environmental regulation that provides an alternative to legal and/or market-based tools, which are based on the diffusion of information. Its effectiveness depends on whether the solutions of attenuation and adaptation to climate change are identifiable, and on whether consumers are ready to adopt behaviours that can contribute to the attainment of sustainable development goals. They must also be able to trust the information provided by the labels. Such conditions as these open up a vast range of possibilities for public funding bodies, which can play a role in the identification of solutions, in addition to contributing to the diffusion of information on the efficacy of labels. Public policies for sustainable development can also be put into practice in a context in which consumers and citizens are willing to pay for them directly (as opposed to indirectly, through their taxes).

• BIBLIOGRAPHIC REFERENCES •

Balineau G. (2010), *Le commerce équitable : un outil de développement ?* Thèse pour l'obtention du titre de Docteur ès sciences économiques, Université d'Auvergne Clermont-Ferrand I, 373 p.

Balineau G. & Dufeu I. (2015), "Are fair trade goods credence goods? A new proposal, with French illustrations." *Journal of Business Ethics*, 92 (suppl.2), 31-345.

Lemeilleur S. & Balineau G. (2015), "Relever les défis du changement climatique : quels rôles pour la certification et les labels", Chapter 22, in: Torquebiau E. (ed.) (2015), *Changement climatique et agricultures du monde*, Collection "Agricultures et défis du monde", Cirad-AFD-Editions Quae, 328 p.

Peattie K. J. (2010), "Green consumption: behavior and norms." *Annual Review of Environment and Resources*, *35 (1)*, 195-228.

Potts J., Lynch M., Wilkings A., Huppé G., Cunningham M., Voora V. (2014), *The State of Sustainability Initiatives Review 2014. Standards and the Green Economy.* IISD and IIED, Winnipeg and London, 332 p.

Tietenberg T. (1998), "Disclosure strategies for pollution control." *Environmental and Resource Economics*, 11, 587-602.

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Copyright: July 2015 · **ISSN**: 2271-7404 · **Conception:** NOISE · **Layout**: Eric THAUVIN · **Translation:** Dupont and Smith