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## POLICY BRIEF

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# Rising to the Sustainability Challenge in the Agri-Food Sector: Perspectives from New Zealand and France

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**S**ustainability concerns all human activities including our agri-food sector. The sustainability of our agri-food sector is determined by the way we produce and consume our food, and all the steps in between. This sector is facing increasing challenges to deliver healthy and secure diets while minimising its environmental impact (be it locally through water pollution or biodiversity loss or globally through greenhouse gas emissions).

In October 2011, IDDRI and the New Zealand Embassy in Paris jointly organised a seminar on how the agri-food sector is rising to the sustainability challenge. The seminar brought together experts from academia, government, civil society, agricultural production, agro-industries and retailers to share both New Zealand and French perspectives and discuss joint collaboration at company and industry levels.

Discussion centred on whether current approaches to develop consumer awareness and responsibility schemes are sufficient for addressing sustainability challenges, what scope there is for environmental efficiency improvement within existing supply chains, and whether there are also different, more sustainable business models to explore. This paper summarises this discussion and identifies avenues for future discussion and research.

### THE IMPORTANCE OF BROAD-BASED COLLABORATIVE EFFORTS

There is a growing consensus on the need to think beyond agricultural production and to embrace a more systemic view, bringing

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together all actors along product supply chains. Rosemary Banks, New Zealand Ambassador to France, noted that sustainability is a challenge for us all and stressed the need to work on it together. Laurence Tubiana, Director of IDDRI, responded that this call for a collective effort is warranted because contrary to the Green Revolution of the 20<sup>th</sup> century, whose drivers were located upstream from production with inputs suppliers playing a key role, the current sustainable revolution is increasingly driven by downstream actors: agro-industries, retailers and consumers who influence production methods. In order to foster important changes to our food systems, we will need to bring all these actors on board.

Until recently, negotiations along supply chains were effectively reduced to purchasing negotiations, in which buyers' main concerns were to reduce costs. According to Olivier Jan, Executive Director of BioIS, sustainable development schemes, and particularly approaches aimed at a better knowledge of the environmental impacts all along the supply chain, have succeeded in bringing to the table actors from the whole supply chain, and a change in the way they interact, moving from an opposition between buyer and suppliers to a coordinated and collaborative effort to provide a better end-product. This has resulted in a better understanding of their respective roles and constraints. Similarly, former opposition between competing producers is moving to pre-competitive cooperation where it was determined that it was better to pool together efforts, for example, to measure the environmental impact of lamb production, rather than engaging in PR battles on which of lamb production models and origin is more environmentally friendly, a battle that could harm the whole industry. Beef + Lamb New Zealand, Interbev Ovins and Institut de l'Élevage presented joint research to develop a common GHG footprinting methodology for lamb production. Benefits include a reduced cost of research, expanded reach and the ability to measure and monitor the environmental performance of their industries.

It was acknowledged that there is room for improvement of sustainability in all production systems and that this improvement can go hand in hand with improvement in productivity. A more efficient supply chain, with less energy or waste is not only good for productivity; it also enhances resource efficiency and reduces the environmental impact of the production. For example, improvements in productivity through the maximisation of lamb per ewe, and of meat per lamb, has also enabled the New Zealand sheep meat industry to increase its resource efficiency. Nevertheless, it was noted that once currently realisable productivity

improvements are achieved, the sustainability challenge could necessitate further technological breakthroughs or a reassessment of existing models of food supply chains

### WHAT LCA CAN AND CAN'T DO

The seminar explored current methodologies used to quantify the environmental impacts of the supply chain, in particular lifecycle analysis (LCA). The debate on LCA touched on two major issues: how and for whom LCA can be useful, including its potential to cover various environmental externalities, and what are the limits of this approach.

The role of LCA as both a Business to Business (B2B) and a Business to Clients (B2C) tool was discussed. There was a consensus that LCA was a powerful B2B tool to identify the margins for progress along each step of the supply chain. A common measurement tool enables comparison, and benchmarking, helping industries to identify where to focus efforts to achieve improvements. Olivier Jan observed that primary agricultural production tended to contribute from 40-70% of the final footprint of an agri-food end-product. Therefore food transformers and retailers keen to reduce their products' footprint need to work with farmers, contributing to a redefinition of the relationship between farmers and agro-industries called for by Louis-George Soler, researcher at INRA.

Other uses of LCA were more debated. Marc Voinnesson, Director of Sustainable Projects and initiatives Department, Casino, presented the retailer's new environmental indicator, incorporating carbon footprint, water consumption and aquatic pollution data which, enables consumers to compare the ecological footprint of products. Assessed under the French government environmental labelling trial, the indicator signals the impact of 100g of product compared to the mean impact of a French adult's daily food basket. Casino intends to progressively incorporate further information, e.g. biodiversity impact. However, Casino's efforts were not primarily motivated by B2C considerations but by a desire to contribute to the development of environmental indicators that are accessible to consumers. By making this information homogenous, comparable and visible in each stores, Casino hopes to foster a virtuous cycle among its suppliers, and to encourage them to adopt measures reducing the environmental impact of manufactured goods. Regarding B2C impacts, Véronique Discours-Buhot, former sustainable development director of Carrefour, underlined that we still had a long way to go before mainstream consumers start weighing environmental impacts into their buying decisions.

Three limitations of LCA were identified. Firstly,

the methodology for LCA, while quite strong for GHG emissions, is still debated regarding other environmental indicators, where the importance depends on local conditions (e.g. high water in-take in a dry area vs. in a water-rich land), or where it is hard to measure (e.g. biodiversity impact). Secondly, building a multi-criteria LCA that pools these different indicators would require their prioritisation, which would be a difficult process. Thirdly, even a multi-criteria LCA does not encompass all dimensions of sustainable development: a product, and its production method, is not necessarily sustainable just because it has a small environmental footprint, as this footprint does not take into account issues related to social or economic development.

### TOWARD NEW BUSINESS MODELS?

According to Louis-George Soler, the agro-industrial process has evolved over time, in answer to growing societal demands of off-season supply, food safety and low prices, and due to technological progress (e.g. refrigeration), towards a process that first separates primary agricultural production into basic elements and then reassembles them to make a finished product. Traditionally the French food transformation sector has followed the same evolution with separation of these two stages (fragmentation, and reassembling), and the specialisation of companies in each stage. As a result, the food supply chain has gained in length and complexity over the last 40 years. Nevertheless, since the 1990s, French agro-industries have seen their productivity gains stagnate to around 0.2% a year, putting at risk their economic sustainability. The environmental impacts of a chain in which products change state many times (dehydration, rehydration, at great costs of water and energy) are high. Confronted with the complexity of the sustainability challenge (including food security, nutrition, the environment), the solution cannot lie solely with resource efficiency, and this questions the very design of the industrial and technological processes underpinning the modern food industry.

Soler proposed that it may be necessary to question the separation and specialisation in the two steps of fragmentation and reformulation: it could be useful, for instance, to develop simpler process chains better able to incorporate variety in primary production, forming new relationships between primary producers and actors further down the supply chain, which could also shift back some added value to the primary producers. This calls for innovation and exploration of how product variety could be delivered from biodiversity of crops and animals.

John Hutchings, General Manager Sustainability of Fonterra, noted that sustainability calls for new, more collaborative business models. He explained that at Fonterra (one of the main players in the global dairy industry), actions on sustainability took the form of both a quest for increased resource use efficiency (at farm level, in logistics and transformation), and a new model of industry-wide cooperation. Fonterra works with their suppliers (farmers) to foster resource efficiency by providing benchmarks, and investing in farms toward GHG efficiency. As a company, they decided to be more transparent and accountable, setting clear targets on sustainability (e.g. reducing carbon footprint by 30% by 2030) and to report on their progress. They also integrated sustainability into the company internal culture. Yet, alongside these changes inside Fonterra, John Hutchings argued that the greatest changes called for by sustainability are in how Fonterra relates to the rest of the world. Fonterra is a partner, with a range of stakeholders (including for instance Danone for which Fonterra is a priority supplier), sharing decision making, partnering on pre-competitive research (for example through the Global Dairy Platform, a collaborative organisation representing a significant proportion of global dairy production), understanding customers' needs and being prepared to make changes to accommodate these. He concluded that such an approach will make it possible to produce the "nirvana" of food, products with high nutrient density and a low carbon footprint.

Véronique Discours Buhot, supported this need for collaboration but commented that such collaboration does not necessarily result in an even share of benefits along the supply chain. Some links of the chain may have to reform more deeply than others, and the higher costs and or revenues linked to such reforms will not be automatically spread evenly among all actors. Sustainability may change relations between different links of the supply chain, but it does not erase power differentials and the distributive effects of negotiations.

John Hutchings and Veronique Discours-Buhot also pointed out that it was important that coordination on public policy and regulation occurred at the international level as if one country was to impose stricter rules unilaterally on its companies, this would harm those companies' international productivity.

### WHAT ROLE FOR PUBLIC INTERVENTION?

In this context of diverse private initiatives, two major points were made concerning the role of public intervention, other than ensuring that environmental externalities are effectively

internalised: first on the need to ensure that sustainability schemes do not reduce market access, and second, a specific proposal for a set of international guidelines to encourage transparency and non-discrimination of eco-labelling.

Ambassador Rosemary Banks called for sustainability measures to be scientifically robust to be sure that they are effective, i.e. do what they claim to do, and be least trade distorting.

Vangelis Vitalis, New Zealand Ambassador to the European Union, argued that the multiplication of non-government initiatives on sustainability, including labelling, increasingly leads to a proliferation of norms and labels. Some of these become quasi-regulatory processes. Some retailers, for instance, decide on norms and if a product does not respect them it will not be shelved in their shops. We need to be wary that these initiatives, on grounds of sustainability or otherwise, do not create unwarranted trade barriers or otherwise discriminate against third country producers. Many such schemes adopt a 'one-size-fits-all' approach and this may not be appropriate in all circumstances. Cost may also be a factor. Indeed,

subscribing to such schemes is costly, even for producers in developed countries, and can prove impossibly high for developing country producers who thus lose market access. These norms, because of their private origin, are outside the supervision of the World Trade Organisation, but they could be studied and discussed within the OECD, where interesting mechanisms like guidelines for multinational enterprises have been established and are subject to regular peer review. Adopting similar guidelines on labelling may help encourage greater transparency and non-discrimination, thereby

supporting both the environment and trade, with obvious sustainable development benefits.

### CONCLUDING REMARKS

Laurence Tubiana suggested that despite the growing consensus on the need for collaborative efforts to develop a more sustainable global food system, international negotiations on sustainability will need to address the hard questions: what are our visions of agriculture and food production, what global public goods do we want to foster, and if our views differ, how can we reconcile these? Genuine global debate is needed if we are to develop a global sustainable food system. This seminar brought together actors with a range of interests and values but with a shared passion for food production. The seminar confirmed that there is a need and willingness to continue this kind of dialogue.

Anne Chappaz, Regional Director from New Zealand Trade & Enterprise, concluded that sustainability of the agri-food sector will require us to "navigate media hype, faulty statistics, political game-playing, the interdependence of economic and technological changes, and the interplay of a hierarchy of constraints". This seminar has made a compelling case for collaborative efforts in undertaking such a journey toward sustainability: across competitors in pre-competitive ways, across whole supply chains, and between public and private actors. Identifying areas for progress in all food chains is a first step that some sectors are already taking. But there is a need for more imagination in designing new sustainable food systems, delivering different products, and a need for more ambition, in reopening the international debate on agriculture and the values we are each willing to attribute to food production. ■

This policy brief is a report of the seminar "Rising to the Sustainability Challenge in the Agri-Food Sector: Perspectives from New Zealand and France" organised by the New Zealand Embassy and IDDRI at the hotel Le Royal Monceau in Paris, October 12, 2011.