SUSTAINABILITY

Exploring Food's Impact

BY ELIZA LEUNG

Professor Ken Green of the Manchester Business School argues that the impact of food-and-beverage production on climate change is more complex than previously thought.

TRANSPORTATION FIGURES: A large shipment by sea versus multiple shipments by short distances by road is generally more energy-efficient.

Manufacturers across all industries have started turning their attention to issues of oil dependency, air pollution, water scarcity, and waste disposal. As the idea of making the world a greener place enters mainstream thought, the retail-food sector has also begun to confront the reality of resource limitations. (In the last year, Tesco, Marks & Spencer, and Wal-Mart all initiated strategies based on sustainable sourcing and a reduced carbon footprint.)

Sustainability represents a welcome shift towards long-term planning, offering a strategy to truly add value to a product. It also gives manufacturers ways to cut costs and to carve out a competitive edge. New retail mandates based on these principles could profoundly alter the physical, regulatory, and behavioral landscape of the food-and-beverage supply chain.

Yet the impact of food-and-beverage manufacturing on climate change is not yet fully understood. It is difficult to evaluate the entire farm-to-fork chain. Research studies, while limited in scope, have also begun to challenge long-held assumptions about the mitigating effects of sustainable production. The issues are complex. Without careful consideration of all the factors, the food-and-beverage industry could compound environmental degradation rather than alleviate it.

In 2006, Professor Ken Green of the Manchester Business School and his colleague Chris Foster, a research fellow, spent nine months studying the impact of food production and consumption on climate change by analyzing the 150 best-selling items provided by one retailer. Their findings went on to inform the UK Department of Environment Food and Rural Affairs.

Recently, Professor Ken Green of the Manchester Business School spoke with Asia Food Journal's Eliza Leung to explore the extent to which patterns of production, sourcing and distribution exist; and the need to selectively tackle environmental issues.

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PROFESSOR KEN GREEN: "Decide which environmental factor is a priority."

AFJ: Why is sustainability gaining attention?

Green: Supermarkets chains in the UK and the US are responding to stakeholder pressure. Since there is a perceived interest in sustainability, it's a path that is being offered to customers. Supermarkets are the most powerful player in the food system, so it's intriguing that sustainability is being wielded as a competitive weapon. This is going to bring about important changes in the supply chain. The fact is that the concept of sustainability is a bit vague. It will be interesting to see how the big retailers will interpret it.

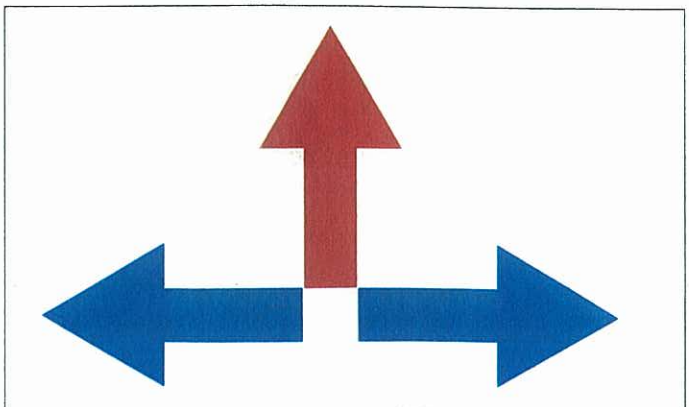
Tesco has decided that Northern China, Eastern Europe and the US are their preferred geographical targets. That has potential impacts on their supply chains. Will they apply sustainability to their overseas branches? I don't know.

AFJ: How were your findings received?

Green: Our intention was to start an informed debate with evidence from a thorough review of the literature. If you can provide a platform of agreed-upon material, that clears the ground for discussion.

The problem is that not everybody liked the outcome of the study. There are always people with passionate opinions about how food should be grown—passions that are only partly-informed by the facts. When we examined carbon footprint, this upset some well-established arguments: Organic food eliminates pesticide and animal-hormone usage, but that says nothing about its contribution to global-warming. If you bring in multiple environmental factors, they don't necessarily all point in the same direction. That is true even for organic and locally-sourced food. There are many different dimensions that you have to deal with. So you have to know all the facts.

The industry knows that distance is not the best measurement of transport. The mode of transport is just as important. Take a large shipment by sea versus multiple shipments by short distances by road. The sea route per kilogram of food is generally more energy-efficient. People don't necessarily understand this. Instead, they want



NO EASY ANSWER: Multiple environmental factors don't necessarily all point in the same direction. Organic food eliminates pesticide use but raises global-warming potential.

MARKET DEMAND: Supermarkets—the most powerful players in the food chain—have detected a consumer interest in sustainability.

to support their local farmers. So there are a lot of well-established opinions that don't necessarily hold up.

AFJ: That implies greater complexity.

Green: There's no easy answer. Let's take a look at tomatoes, which generally have big water requirements. Tomatoes grown in greenhouses in Northern Europe have different requirements than those grown in open fields in Spain. Greenhouses need to be heated up, but there is no problem with water in Northern Europe. Tomatoes grown in the fields are exported by truck to Northern Europe, so they have a lower carbon footprint; but some of southern Spain has a chronic water shortage. Therefore you have to decide which environmental factor is a priority. There are different environmental consequences—one indicator is not a better method than the other.

Agricultural systems are changing. Supply chains are changing. It's not just the foods that are being eaten, but where they are being sourced from. Both are being set up in a a systematic way, almost as if they're being ordered by supermarkets.

AFJ: Who should drive sustainability?

Green: Pollution has an external economic cost on reputation—especially where regulations and law are involved. So manufacturers will take notice. As for ethical shopping, you can't rely on a consumer's behavior to make a difference. The burden should be put on business and industry. We have to get governments to cut fossil-fuel use. Manufacturers can always reduce heating, transport, and the like. Supermarkets have only just started. They're encouraging consumers not to drive, cutting down on packaging, and changing distribution practices.

AFJ: What is the takeaway?

Green: It is not wise to base policy on a small number of environmental factors. There are many issues to consider. If you want to minimize environmental impact, there has to be a trade-off between competing needs rather than trying to address them all. It is certainly not a simple decision-making process; but if you ignore the facts, you miss the flavor of the problem. Decide which environmental factor is a priority.

There are a lot of issues to consider: Organic production, animal welfare, fair trade and the discontinuation of certain farming practices. These are not new. What is a 21st-century topic is global warming and carbon-dioxide levels. Some experts claim it is the topic of the 21st century, because it deals with the consequences of climate change. It has the potential to alter agricultural patterns. Changes to the water table or seasonal temperatures could prevent the growth of plants and promote disease. This type of evolution has been happening in the last 1000 years; but these changes might come a lot more rapidly than we're used to in the future. ■

More Information

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