

What do food traceability crises in the North mean for people working in food chains in the global South?

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Arising from a recent scare in the UK relating to adulteration of beef with horsemeat in processed foods, a number of contributors discuss what implications this has for producers and exporters in developing countries. These contributions discuss similar scandals in Asia and southern Africa, and go beyond meat to milk, fresh fruit and vegetables, and other food products. They discuss how these events have led to drives not only to test the final product but also to monitor production and transportation methods, the costs of all of which are likely to be handed on to producers.

Horse meat ... donkey meat

Caspar van Vark

With horsemeat dominating the European headlines, many people may not have noticed a similar news story emerging from southern Africa. On 25 February, the BBC ran a story on donkey being passed off as beef in Kenya, and in the same week South Africa's Stellenbosch University released a study showing that undeclared donkey, water buffalo, and goat had been found in supermarket burgers and sausages.

The findings from both countries are a concern in their own right, for all the same reasons as the European scandal. But the story about misrepresented food within Kenya is particularly interesting because, from a Northern food chain perspective, Kenya is routinely thought of just in terms of its role as a supplier to our supermarkets, rather than as a market in its own right. The outbreak of a domestic meat scandal there gives pause for thought, and is likely to act as an opportunity for observers – not least Kenyans themselves – to look at the country's food chains through the lens of its domestic governance.

There is, of course, good reason for Kenya to be routinely regarded in terms of its exports, because it has been hugely successful with them. In 2011, horticultural exports alone made up 11 per cent of GDP. Mangetout, fruit, and cut flowers are all examples of the high-value products that bring in valuable foreign exchange.

But the participation of Kenya – and other countries in the global South – in global value chains depends on its compliance with standards imposed by the North. These standards are strict, and to a certain extent alien to the countries that are forced to

adhere to them. Global standards are developed along Northern priorities and ways of thinking, failing to incorporate the views of Southern stakeholders (Van Dijk and Trienekens, 2012). In many countries of the global South, basic sanitation and access to clean water are still pressing issues, even as their export-oriented industries work hard to meet exacting Northern standards for perfect little packages of French beans.

This is not to say that countries such as Kenya do not have their own domestic food safety standards as well, but it is also fair to say that two parallel systems are at work. Unnevehr (2003) questions whether such a dual system is desirable. On the one hand, high standards designed for exports help develop valuable markets and can rub off on the domestic market by raising standards overall. Equally, there are cost and effort involved, and standards designed for the North may not actually be necessary or economically viable in a domestic, Southern market context.

Even if the very same set of standards is not necessary, the problem of donkey being passed off as beef indicates that there are holes in the governance of the food chain in the global South, just as there are in Europe. Meat consumption is on the rise as development accelerates and middle-class populations emerge. Domestic consumption of meat in Kenya increased from 316,115 tonnes in 1991 to 606,169 tonnes in 2007, equating to a per capita rise in consumption from 14.9 kg to 16 kg (Bett et al., 2012).

This is still some way off meat consumption in the North, but people in the global South are consumers as well as producers and urban centres are expanding. Local food scandals will inevitably highlight to people how the standards used in high-value export chains do not necessarily apply across the board, and may force greater scrutiny of the disparity between local and export supply chains.

For many African smallholders, those standards are a costly burden anyway, so it is by no means certain that people will clamour to apply Northern certification standards to all their local food chains. But finding donkey where they expected beef may spark more discussion within the global South of how the governance of local food chains fits alongside export-oriented chains, and how exactly those interfaces should be navigated so that domestic consumers there can have the same confidence in their food that we expect in the North.

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Food scares in Europe ... again. What do they mean for developing countries?

John Humphrey

Food is once more in the news across the European Union. The latest crisis is about horsemeat being found in products that are supposed to contain only beef. The same scandal has led to the identification of DNA from other animals in supposedly beef products. These events highlight, once again, the complexity of food chains within the EU, the difficulties in maintaining control over complex food production systems, and the ways in which food from one point in the food chain spills out to many products sold in many countries.

So far, this crisis has been identified predominantly as a labelling issue. Consumers think they are buying and eating beef, but it is actually horsemeat. Concerns about food safety have been mostly limited to the possibility that the horsemeat might contain residues of a veterinary drug that can be harmful to human health. However, there is a more fundamental food safety problem here. If the factories producing horsemeat burgers and horsemeat lasagne do not know what kind of meat they are using, then they cannot possibly have accurate information about where the meat originates from and the conditions under which it was processed. Traceability is at the heart of EU food safety controls, and in this case it has broken down. Even if the 'fake beef' meat in these products had actually been beef, the lack of traceability to the abattoir or the farm would be a major failure.

This food scare might appear to be a problem only for the EU. But in the past the response of food safety authorities into developed countries such as scares and resulting falls in consumer confidence has been to tighten up on food safety. The EU response to the BSE ('mad cow') epidemic in the 1990s was not only to tighten up controls on beef, but also to recognize that the whole system needed much greater uniformity in control. The result was the European Commission White Paper on food safety in 2000, the General Food Law of 2002 and the food hygiene regulations of 2004 (CEC 2000, 2002, 2004a, b, c). A similar process has been seen more recently in the United States, where repeated food safety problems, particularly with fresh fruit and vegetables, led to the 2010 FDA Food Safety Modernization Act (FSMA) (United States Congress, 2010). This greatly extends controls over food-processing plants and also introduces, for the first time, mandatory controls for the safe production and harvesting of fruit and vegetables associated with foodborne illness outbreaks.

Increasing food safety controls largely in response to domestic food safety problems has long concerned developing country governments and exporters because of their potential to act as non-tariff barriers. In the case of meat and dairy products, official controls are so extensive and complex, covering both human and animal health, that exports from developing countries are quite limited already. The greater concern is likely to be whether this latest scare spills over into safety controls more generally in the way that occurred with BSE. In particular, concern is expressed about the introduction of controls that target production processes rather than the characteristics of the final product. The final product can be tested, while controls over how food is produced, transported, and stored place more complex

demands on producers and exporters. Growers and exporters have to introduce farm- and food-processing establishment-level controls, demonstrate compliance, and introduce traceability so that the product can be linked to places where the control system has been implemented. This has been seen as particularly onerous for small farmers.

The experience from the EU is that the introduction of official controls by itself is not the biggest problem. In spite of considerable attention being given to the impact of private standards on developing country fresh produce exports (WTO, 2007; Henson and Humphrey, 2009; Codex Alimentarius Commission, 2010), large parts of the EU import fresh produce without requiring any conformance with private standards. While a literal reading of the EU's food hygiene regulations appears to suggest that importers of fresh produce from outside the European Union should establish that food hygiene requirements during production and harvesting have been met, in practice this comes down to an obligation on the competent authorities responsible for food safety in the exporting country to meet EU requirements with respect to effective food safety controls and the general obligation of food business operators in the EU to supply safe food. None of this requires private standards, audit or certification.

The development of private standards is affected by the specific legal arrangements around food safety, which vary from country to country within the EU, and company strategies with respect to brand image and food safety. Supermarkets in the UK initially developed strict specifications that controlled how suppliers grew and harvested products in response to the 1990 Food Safety Act (UK Government, 1990), which made food businesses strictly liable for food safety failures (i.e. they commit an offence if they sell unsafe food even if the safety problem was not of their making and they had been assured by suppliers that the food was safe), but allowed them a defence of 'due diligence'. Private standards are one means of demonstrating that companies have exercised due diligence, taking reasonable measures to ensure that food is safe. Equally, however, supermarkets and other parts of Europe have adopted private standards as a marketing tool and a means of reassuring consumers about food safety. German supermarkets adopted the GLOBALGAP standard following an exposé by Greenpeace of pesticide residue levels in fruit and vegetables in 2005 (Rodman, 2008).

From the point of view of developing countries, the greater threat of rising barriers to exports of fruit and vegetables probably comes from the United States. The FSMA not only introduces mandatory controls on fresh produce production in the US, but also creates an obligation on food importers to ensure that imported food meets the same requirements. Michael Taylor, the Deputy Commissioner for Foods at the Food and Drug Administration (FDA), summarizes these obligations in the following terms:

FSMA makes importers accountable for verifying, in a manner transparent to FDA, that the food they import has been produced in accordance with U.S. standards, or under modern preventive controls that provide the same level of public health protection. (Taylor, 2012)

Furthermore, the FSMA makes frequent references to the use of third party certification as a means of establishing that imported food meets the requirements of the law. As well as direct promotion of third party certification by the FDA itself, importers might well decide to use third party certification of auditable standards as a means of demonstrating that they have complied with the law. These issues are discussed further in a recent paper on the FSMA (Humphrey, 2012).

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How can food chains in Asia become scandal-proof?

Raghavan Sampathkumar

Food production in Asia is primarily known for its large number of small landholdings, generally from less than an acre to about 5 acres, and small herd size (e.g. 1–3 animals in India) in the livestock industry. While smallholders are very important for the countries to achieve food security (i.e. meeting the food demand), quality often becomes secondary to quantity produced. The food chain consisting of primary production, processing, storage, distribution, retail, and food service – in short, farm to fork – is typically fragmented, making enforcement of quality and safety standards a nightmare for the governments of Asian countries. Food sourced through these fragmented chains is highly variable in terms of its quality and composition, and the likelihood of contamination, adulteration, and inadvertent or intentional mixing of harmful substances is extremely high as traceability remains a major concern.

However, unlike many agricultural crops, the poultry meat industry has successfully adopted backward integration as an effective platform to manage the fragmented supply chains, where companies source a sizeable portion, if not completely, from their own or contract farms. Even so, traceability, the fundamental requirement for a scandal-proof food chain, is still a huge problem in many Asian countries because of the large number of smallholdings, lack of awareness of good practices such as GMP (good manufacturing practice), HACCP (hazard analysis critical control points), and GAP (good agricultural practice), and infrastructural bottlenecks for hygienic slaughter, processing, and cold storage of food and meat products.

With globalization, food value chains become lean by transgressing boundaries as transnational corporations seamlessly integrate their sourcing and supply chains to optimize costs and maximize profits. But inherent differences in the structure and *modus operandi* of food chains between countries make the task of maintaining the quality and safety of food, particularly processed or raw meat, highly challenging. It is difficult to control the quality of raw, semi-processed or highly processed food and meat products sourced using these fragmented supply chains and the exercise becomes expensive. Non-compliance with food safety regulations can sound the

death knell for the reputation of the food companies. All these are driven basically by profit motive and cost concerns.

Managing quality and safety in supply chains across borders

As different activities of the meat value chain – farming, slaughtering, processing, packaging, export, and re-export – may take place in different countries, the likelihood of inadvertent or intentional contamination and other unscrupulous practices increases considerably. Several instances, from the melamine contamination in milk in China to the recent horsemeat scandal in Europe, donkey meat found in South African burgers and Scottish curry houses substituting inexpensive beef for lamb, all point to the inherent flaws in either policy formulation or stringent ground-level implementation of food safety and quality regulations worldwide. However, almost all the scandals that are circulating in the news worldwide emerge from the Northern hemisphere, where the food market is more mature and customers are more appreciative of and concerned about food safety and quality than in the global South.

Regulatory initiatives in Asian countries

Every country must take responsibility to ensure quality and safety of food destined for domestic consumption as well as export. Currently, all the Asian countries already have necessary and sufficient laws to ensure food safety and quality, and to curb adulteration and unlawful practices. Any new laws introduced as a knee-jerk reaction to recent food scandals will only increase the costs of compliance, particularly for the organized players, and push companies harder to profit at the cost of consumers' health. A strong political will and visionary leadership are needed for proper implementation of existing food standard and safety regulations to prevent such scandals in future. This is critical for those Asian countries that aspire to become prominent sourcing and export hubs such as Thailand, Vietnam, India, Indonesia, and Bangladesh.

Thailand has indeed, in the last few decades, pioneered the transformation of its agri-food and meat supply chains, with a stern focus on assuring food quality and safety while serving as an example for other Asian countries. This can be observed in the certification efforts taken up by the Bangkok metropolitan authorities to ensure quality food is sold by street vendors. Similarly, Vietnam enacted a Food Safety Law in 2011 and is making concerted efforts, particularly in the food service sector. Malaysia and Indonesia are keen to improve food safety aspects in their primary meat production sector as they are aspiring to become big exporters – particularly of halal meat. The recently constituted Food Safety and Standards Authority of India (FSSAI) mandates that all the individuals and companies involved in any or all aspects of food obtain a licence as an FBO (food business operator) from the authority to be able to continue in the business. These are positive steps not only towards ensuring that food is safe and of good quality, but they also go a long way in discouraging unlawful activities in the food industry and prevent events such as the recent horsemeat scandal.

Whose responsibility is safe food?

While it is primarily the responsibility of the companies that are in the business of sourcing and supplying raw meat, processing, and exporting meat to ensure quality, the responsibility does not end there. The entire food industry must self-regulate to follow ethical principles and values and not yield to the pressures of unscrupulous profiteering. Industry associations have a key role to play as they are more likely to have insider knowledge of the practices adopted by their members. They can enforce compliance on ethical and moral means through peer pressure since a few outlaws will tarnish not only the image of the entire industry but a country's reputation also.

The role of governments

Governments must ensure proper implementation of food quality, safety, and labelling laws besides investing in improving the infrastructure, including modern slaughterhouses, processing centres, and cold storage facilities, which primarily help the small-scale producers. Public and private investments must be encouraged in these areas to create a robust and scandal-proof supply chain, which is a definitive prerequisite for any country to become a reliable and reputed supplier of safe and quality meat. Severe punitive actions must be taken on the violators through proper implementation of food safety regulations at the ground level. Clear and stringent labelling laws, to include country of origin particularly, must be enforced to avoid food scandals in future.

Consumers have the last word

Finally, but more importantly, all the above efforts will not be effective unless consumers cultivate the habit of reading and understanding the information printed on the labels. Even more so than in the global North, a lack of awareness among producers and consumers in most Asian countries, along with regulations on food safety and quality that remain strong only on paper, help some companies indulge in unscrupulous practices.

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Supermarkets take charge and governments call for stricter food safety legislation. But what of producers in the global South?***Pamela Robinson***

More local sourcing and stricter food regulation has been the industry's response to the recent scandal of meat contamination in the European food supply chain. The discovery of horsemeat in processed foods has shocked an industry that considered

it had some of the strictest controls and food governance systems in the world. Clearly, the issue of food safety and the ongoing testing regime for equine DNA in well-known grocery products is bound to challenge public confidence in the food industry. And, it is to be expected that the supermarket retailers will attempt to rebuild their position as purveyors and providers of safe and high-quality products by taking even greater control of their supply base. Subsequently, there are likely to be many changes in the sourcing practices of the major supermarket groups and processing activities of the producers, both in the UK and across Europe. These changes will undoubtedly result in a more stringent system of testing for raw materials, ingredients, and finished products.

A more comprehensive testing regime will incur additional cost, however, and while the supermarkets are somewhat evasive on this point, food producers recognize the likelihood of where such costs will fall. Of course, some may be passed on to the consumer in terms of increased retail prices, but there will be a reluctance to do so. In all probability, the supermarkets will expect additional charges to be absorbed in the very supply chains that are to be more tightly scrutinized and managed. So systems of 'due diligence' get ramped up, transparency and traceability in the supply chain is increased, and responsibility is moved upstream. All of which is bound to have a devastating impact on small producers/growers outside of the EU – the implication of a more intense testing regime will be more than a ripple effect on the global South.

Greater transparency and traceability in the supply chain requires investment, a cost that is too high to bear for many small producers and growers. In essence, the intensification of screening and food testing requires capability, skills, and the capacity to conduct tests in the field, on farms and in pack-houses. In essence, such requirements will act as a 'non-tariff economic barrier' or an 'indirect trade barrier' if not properly managed by the producer/grower. Furthermore, many supermarket groups have committed to buying more locally – bringing food closer to home – and to reintegrate some of the chains they had outsourced. The shortening of the chain provides greater control for supermarkets keen to regain the trust of consumers, while limiting the opportunity for small producers in the global South to access markets where they have a unique offering.

A more robust testing regime in the European food supply chain is likely to result in even more hurdles for Southern-based producers/growers wishing to access overseas markets. In view of a 'trade not aid' agenda, these groups are going to need ever greater support, from both retailers and intermediary bodies in the supply chain, if they are to retain their current foothold in the marketplace and to succeed in further developing their export potential.

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Horsemeat: double standards in supply chain management?

Linda Nicolaides

Recent incidents where horsemeat has been found to have been incorporated into beef products have demonstrated weaknesses and, indeed, possible illegal practices in the food chain within the EU in terms of traceability and authenticity. It was thought that this had been caused by the increase in costs in production methods for beef. By including horsemeat in the minced meat mix, a cheaper raw material was introduced into the supply chain that is used to manufacture ready-to-eat products incorporating minced meat, such as burgers, meatballs, and lasagne.

This issue was formally identified by the Irish government in January 2013 during routine monitoring and surveillance activities. This finding was originally thought to be a local occurrence where a mislabelled product had found its way into the food chain. However, further investigations were carried out by supermarket chains, whose products were implicated in these findings, as well as other governments within the EU. The outcome of this has been low customer confidence of all meat products that are prepared with minced beef, available as fresh chilled or frozen product. The uptake and development of safety and quality management systems are integral to ensuring that food and feedstuffs produced and traded globally are safe and wholesome, and meet with national and international legislative requirements. Such systems are not infallible and will reflect upon the capabilities of the people who design, implement, and maintain them.

Over the past 30 years a lot of time and effort has been put into supporting governments and food chains in the South to develop robust national control systems and safety management systems so that farmers and producers of niche market products can access international trade routes. Meeting the legislative requirements of the North can be quite onerous for producers in the South, where the cost of ensuring raw materials and ingredients are of the appropriate safety and quality so they are not rejected by customers is high.

Cases such as this, where substitution of high-value beef minced meat has been made with up to 60–100 per cent cheaper horsemeat, expose weaknesses within the supply chain. They make governments and stakeholders in the South, who are striving to meet the same international requirement for food security, safety, and quality, lose belief in the purpose of such systems when stakeholders within the EU are seen to abuse the system. It makes stakeholders in the South wonder why they should develop robust systems as they start to see the equivalent systems that they are working to achieve and maintain reflecting double standards. The outcome of this case may be a call for the requirements for traceability and supplier quality assurance to become even more stringent, especially in the case of high-value food chains for products of animal origin, which may have a knock-on effect for traders in the developing world.

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A conservationist's viewpoint

Heather Ducharme

I work for a UK conservation NGO on reducing the impact of our consumption on rainforests. Perhaps one of the most interesting things about the British horsemeat scandal for environmentalists is that we've seen it all before – indeed, in some cases, we've created the crisis.

Take for example, the attempts to save the Indonesian rainforests. Greenpeace, WWF, and others have been campaigning for years against pulp and paper companies that chop down fantastically biodiversity-rich forests to produce – via a notoriously complicated and opaque global supply chain – 'value range' paper products such as loo roll or kid's toy packaging sold in supermarkets all over the world. Independent lab tests showed that some of these paper products contain rainforest tree fibres from illegally logged trees (Greenpeace). These claims were initially denied by the pulp and paper product companies. Yet when UK retailers such as Tesco were pressured by the NGOs to delist these suppliers and the NGOs requested more information on exactly what was in their paper products, they found 'they weren't able to verify the sustainability of their supply chains' and were forced to stop buying. Sound familiar?

The pulp and paper campaigns created a range of responses. These start with the simplest one: buy less paper. Then there is the more patriotic solution: buy local. The third, most complicated set of solutions revolves around increasing global North control over international supply chains. There are a number of 'tools': voluntary certification systems (such as FSC, the Forest Stewardship Council); vertical integration of supply chain from production site to finished product; DNA tree tracking; mapping and satellite monitoring of source forest areas (i.e. by the Brazilian government and some private companies); and import restrictions (such as those required under the EU Timber Regulation, just come into force).

In slightly different guises, all of these solutions have appeared in UK stakeholder responses to the horsemeat scandal: go vegetarian; buy from the local butcher or farmer; buy certified organic; buy your own abattoir; DNA test your products and/or develop a system to track individual cows through the supply chain; and call for strengthened food import regulation and enforcement.

If effectively implemented, this package of solutions would probably significantly increase the traceability of food consumed in the global North. Yet, at first glance, the impact on workers in the global South would seem largely negative. First and most obvious, workers could stand to lose jobs if consumers in the global North decided to consume less imported food and/or consume more locally, let alone if import regulation excluded their products. Vertical integration could have similar negative economic consequences for workers, eliminating small local traders from the supply chain. Certification systems such as FSC – as well as any other policy or regulation requiring traceable supply chains – increase the documentation burden on workers, requiring levels of literacy, translation and/or auditing expenses that may stretch the capacity of some workers and be beyond the reach of many small businesses, excluding them from international markets.

Yet there may be some positives hidden in the mix, perhaps especially in the realm of certification and regulation. Traceability crises create demand for better

corporate and public policy. Many consumers are shocked and angry when they find out there is rainforest fibre in their toilet paper, and even more upset when they find out they have inadvertently eaten horsemeat when they thought they were eating beef. And although many will be unwilling or unable to buy less, buy local, or pay more for better produced goods, they still expect businesses and governments to make sure retail products are not only what they say they are, but also safe and sustainable. This makes many companies quite sensitive to supply chain exposure, and politicians eager to demonstrate they are addressing problems when they arise.

The solutions that are most palatable to businesses and governments are certification and regulation to improve traceability. In the forestry world, certification systems such as FSC also require not just improved traceability and forest protection, but better operational planning and compliance with local laws, international labour codes, and health and safety measures which employers may not otherwise enforce. Recent forest product import regulations in the EU have incorporated or modelled requirements of voluntary certification systems, in theory extending their benefits across a much larger number of businesses. There is a chance that some of these benefits would be even more pronounced in the food sector. For example, small cocoa farmers in West Africa see significant increases in their yields and therefore their incomes when certified to Rainforest Alliance standards. Is there regulation that can spread such benefits across the entire food sector? If so, and if it has anything to do with saving tropical rainforests, I'd like to hear about it.

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Does the horsemeat scandal signal siege economies?

Jeanette Longfield

The horsemeat scandal has generated a lot of jokes and countless clever Photoshopped images. At time of writing, the scandal rumbles on, with more DNA testing revealing more contaminated products, in more countries, and also new contaminants. Emergency meetings are being held across Europe involving officials and ministers, and food companies are scrambling to apologize to their customers and pledge to

clean up their supply chains, with some even promising to buy more local produce. So, whatever else might (or might not) happen to our food and farming system, the horsemeat scandal has given a fresh impetus to the desire for shorter food chains and more local food.

On the face of it, this might be bad for poorer countries that rely on food exports to richer ones to generate jobs and income. The global recession continues, food prices are rising, so any fall in income from reduced exports could be very damaging. Even without these adverse conditions I would argue in favour of food trade – closed economies are no good for anyone (with the possible exception of dictators). But my support for trade comes with a number of very significant caveats. Trade needs to be on fair terms (and it is far from that now), the traded products must be sustainably (meaning, good for people and for our environment) produced and distributed, and there are some things that, in my view, should not be traded.

Regular readers of this journal will need no convincing that we need more fair trade and more investment in poorer countries so they are not stuck with trading low-value commodity crops. Value adding is the business to be in: for example chocolate not cocoa; coffee products not coffee beans; juices and other products with a longer shelf-life, not perishable fresh produce. There are lots of food products to trade in, particularly food that won't grow (or that we shouldn't grow, for example, with artificial heat) in the cooler climates of richer countries.

Live animal trade, however, is top of my unacceptable list because of the animal suffering it causes and the high risk of spreading diseases (many of which are dangerous to people as well as animals). Indeed, the transport distances that I could live with are so short, most animal movement within countries – let alone between them – would end.

Given people in rich countries should eat much less meat (for health, environmental, and many other reasons) I'm not convinced that there is a good case to be made for dead animal trade – meat – either. It is true, of course, that it is easier to distinguish the identity of meat when it's alive than when it's dead and chopped up or minced. But the problem is less one of identity (the people putting horsemeat in the human food chain at the beginning of that chain knew they were doing it) and more about the length and complexity of the food chain (so others further down the chain didn't know). Above all, there is the relentless search by global business for cheaper supplies that mean larger profits.

So what advice would I give to meat exporters in poorer countries? In a word: diversify. I have never understood why the industry that has given us the maxim 'don't put all your eggs in one basket' routinely ignores this wisdom. Easier said than done, of course, but now would be a good time to explore the options with some vigour – whether that's new value-added products, new markets closer to home, or both. Those with good memories will recall salmonella in eggs, campylobacter in chicken, mad cow disease, foot and mouth disease, avian flu, and swine flu. I very much doubt horsemeat is the last meat scandal we will see. Difficult as it is, start planning your investment in higher standards, traceability, and meat-free products.

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