

Institution:	Royal Agricultural University
Unit of Assessment:	6 Agriculture, Veterinary and Food Science
Title of case study: Food Safety, Quality & Sustainability	
1. Summary of the impact (indicative maximum 100 words)	
<p>Food safety and quality management developments have resulted from a combination of major food incidents, government regulations and industry initiatives. This has led to the development of private standards that have become quasi-regulatory on industry. The body of evidence aggregated from the RAU's research and consultancy activities has provided a unique global perspective on food safety regulation and management. Governments, NGOs and industry have used this evidence to further national and global strategies for food safety management including primary production. Current research is now centering on two key areas: strategic management of risks in primary production and public: private partnerships supporting agriculture.</p>	
2. Underpinning research (indicative maximum 500 words)	
<p>Dr Richard Baines, (Principal Lecturer); Dr James Jones, (Principal Lecturer, retired march 2013); Mrs Sally Story, (Consultancy Manager, initially appointed as research assistant in 2004).</p> <p>All websites quoted were accessed on 26/11/2013.</p> <p>Impact 1. Government and Industry Guidance on Global Environmental, Social and Market Standards for Agriculture and Food Industries.</p> <p>A scholarship award from the Farmers Club funded a global study of farm and food industry standards by Baines in 2000. The research was based on the analysis of standards, including mechanisms of inspection and certification, and interviews with key stakeholders. This work underpinned several international seminars and conference papers.</p> <p>Following this initial work, Agriculture, Fisheries and Forestry Australia (AFFA) commissioned a study of European Retailers, Standards and Market Access and the potential impact on Australian producers and food industry (Baines, 2001). This was based on an analysis of retail private standards, interviews with integrators and an analysis of the links to farm level standards and evolving EU food laws. This study was presented at an international conference in Melbourne in 2003 and thereafter the key issues were shared with farmers and agri-food industry at several workshops in Brisbane, Adelaide, Sydney, Canberra, Hobart and Perth. The core message is still published on the Australian Department of Agriculture web site "Safety on the Shelf; the Impact of Global Retailer's safety and quality requirements on Australian Food exporters" (2002) (http://www.daff.gov.au/agriculture-food/food/publications/safely-shelf).</p> <p>This research underpinned a paper for a Canadian Government and Industry workshop on global developments of farm food safety standards, following which a further study was commissioned by the Canadian Government on potential models for integrating environment into on-farm food safety programmes (Baines, 2004) which evaluated farm standards including environmental deliverables and developed a conceptual model for private standards. In addition, a Memorandum of Evidence to the Select Committee on UK Food Safety and Food Information in 2004 was submitted and Dr Baines was invited to give evidence given in person.</p> <p>This body of research was summarised in a book 'Delivering performance in food supply chains' (Baines, 2010) and led to subsequent work commissioned by the Safe Quality Food Institute (SQFi, Arlington VA, USA) - see section 4.</p>	

Impact 2. Farmer Engagement linked to Risk Perceptions and Management

A study under the RELU (Rural Economy and Land Use) programme (**Baines *et al.*, 2007**) evaluated private environmental standards for agriculture and showed that they are a key tool to manage quality, food safety and various intangible attributes relating to production practices - including impacts on the environment - within the supply chains of multiple food retailers and branded manufacturers and processors interviewing amongst others, Mack Multiples.

This led to the development of a project with Mack Multiples between 2007 and 2009 funded by Department for International Development (DfID) through the Commark Trust (<http://www.publications.parliament.uk/pa/cm200506/cmselect/cmintdev/921/921we32.htm>) which developed a model based both on the earlier work and on the RELU study, and on articulating farm and food standards through a joint venture to improve market access and quality of farmer produce.

Impact 3. Emerging Policy on Sustainable Livestock in the UK.

A study for the Prince's Rainforest Project (**Baines, 2008**) evaluated the impacts and sustainability of oil palm, soybean and tropical beef ranching on global rainforests.

Subsequently Friends of the Earth (FoE) commissioned research (**Baines & Jones, 2010**) which explored the potential for home-grown protein crops as alternatives to imported soybeans including evaluation of the effect of climate change, CAP reform and other policy considerations relating to animal feed.

3. References to the research (indicative maximum of six references)

Baines, R. N. (2001) Food Safety and Quality Programs of Global Retailers. A report for the Food Business Group, Agriculture, Fisheries and Forestry, Australia (AFFA) (available on request)

Baines, R. N. (2004) Environmental Certification through Farm Assurance – A Review. Agriculture and Agri-food Canada, Toronto, Canada. (available on request).

Baines, R. N., Bednarczyk, A., Story, S., Watson, S. and Vorley, B. (2007) Private sector environment standards: Impact on ecological performance and international competitiveness of UK agriculture. Rural Economy and Land Use programme (RELU) Report (full report available on request; project summary on RELU website <http://relu.data-archive.ac.uk/explore-data/search-browse/project/?ID=RES-224-25-0036>)

Baines, R. N. (2008) Current and Alternative Production Patterns of Beef, Soy and Oil Palm: Implications for Rainforest Conservation The Prince's Rainforest Project. (available on request)

Baines, R.N. (2010). Quality and safety standards in food supply chains. In Mena, C., Baines, R. and Stevens, G. (ed.) (2010) Delivering performance in food supply chains Woodhead Publishing. 15, 303-323 ISBN 9781439827260

Baines, R. N. and Jones, J.V.H. (2010) The potential for replacing imported soy with alternative home grown protein feeds for UK livestock. Research Report for Friends of the Earth. (available on request)

4. Details of the impact (indicative maximum 750 words)

The research into food safety, quality and sustainability focussed on understanding the mechanisms, opportunities and constraints of private standards and strategies to identify,

measure, manage and communicate risks (hygiene, quality, environmental, social, economic or reputational) when encountered. This has helped governments (Australia and Canada) and industry to develop their own strategies to manage such risks and has led to further research and impacts as below.

Impact 1. Government and Industry Guidance on Global Environmental, Social and Market Standards for Agriculture and Food Industries.

Based on the underpinning research described in section 2, especially the work for the Canadian Government, the Safe Quality Food Institute (SQFi, Arlington VA, USA) commissioned Dr Baines to develop two new training modules for primary producers and the food industry globally. The Responsible Environmental module and the Employee Care module consisted of standards, guidance, training materials and recommended audit checklists.

These standards have since been combined into the SQF Ethical Sourcing Code (2010), a voluntary module to run alongside the mandatory Food Safety & Quality plans of SQF1000 (farms) and SQF2000 (food businesses). Compliance with this Code allows SQF certified businesses to meet the ethical requirements of many of the global retailers such as M&S and Sainsbury's in the UK.

Impact 2. Farmer Engagement linked to Risk Perceptions and Management

The underpinning research funded by RELU (**Baines et al**, 2007) led to the project funded by the Department for International Development (DfID) through the Commark Trust which developed a model based on articulating farm and food standards to improve market access and quality of farmer produce. Then, through farmer engagement, a joint venture between Zambian smallholders and Mack Multiples (a major produce integrator in the UK) was established. This joint venture (ZSSG) currently includes over 50 growers with a target to involve 200 small farmers; furthermore, produce from these growers has been on UK supermarket shelves since 2012 (avocado) and in South African supermarkets (melons).

“The Royal Agricultural College was responsible for researching and collating a feasibility study of this project on behalf of Mack Multiples while facilitating the input of Standard Bank and the Small Scale growers. The Royal Agricultural College will follow the implementation of this project and write it up as a case study as a record for future implementation should this model be implemented in other countries. Mack Multiples have requested that the Royal Agricultural College have 2% voting rights on the PMO Board”. (quote from Mack Multiples project document, available on request)

Impact 3. Emerging Policy on Sustainable Livestock in the UK.

Research commissioned by the Princes Rainforest Project (**Baines, 2008**) was used to underpin evidence given to Conference of the Parties (COP) 15 in 2009. Subsequent to this **Baines & Jones (2010)** carried out research for Friends of the Earth (FoE) which was incorporated in their report “Pastures New: a sustainable future for meat and dairy farming” published on their website http://www.foe.co.uk/news/pastures_new_24660

“**Pastures New** : This report summarises the RAC’s key findings as well as drawing on Friends of the Earth’s own research. It includes case studies to illustrate planet-friendly farming in action. It is aimed at farmers, policy makers, campaigners and MPs, but will prove essential reading for anyone interested in food and the environment. It concludes with a series of recommendations, mainly to Government, to achieve a more sustainable future for livestock farming in the UK.” (FoE)

This document also makes it clear that the RAC research was used as key evidence in FoE’s

Impact case study (REF3b)

campaign for a new law ultimately aimed at protecting rain forests. An independent Bill was introduced in Parliament in 2010 which 'Required the Secretary of State to prepare and implement a strategy to improve the sustainability of livestock farming and the sustainability of the consumption of livestock products; and for connected purposes'. During the debate on 12 November

<http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm101112/debtext/101112-0001.htm> the Government gave its reasons for voting against the Sustainable Livestock Bill.

However, FoE argued that this new law would have been a big step towards preventing UK meat and dairy production from destroying rainforests and leading to massive climate-changing emissions.

5. Sources to corroborate the impact (indicative maximum of 10 references)

Impact 1. Government and Industry Guidance on Global Environmental, Social and Market Standards for Agriculture and Food Industries.

1. Safe Quality Food Institute. Ethical Sourcing Module syllabus (2010) <http://www.sqfi.com/wp-content/uploads/Ethical-Sourcing-Module.pdf>)
 - a. Ethical Sourcing Module content (2010) <http://www.sqfi.com/wp-content/uploads/Ethical-Sourcing-Guidance.pdf>
2. Correspondence (available on request) "This is to confirm that as Executive Director of the SQF Institute I engaged the services of Dr Richard Baines of the Royal Agriculture College to draft, trial and finalise an Ethical Sourcing Module and supporting training program to accompany the SQF Code series of standards. The project (research & drafting) commenced early 2006 prior to introduction to potential users at 2006 SQFI Conference in Washington DC in Oct 2006. The project continued with further review, research, drafting & trials (Washington Apple Growers) and developing training materials and final drafting until you completed the project in 2009 (after I left the SQF Institute)" Confirmation of contract available

Impact 2. Farmer Engagement linked to Risk Perceptions and Management

1. Trade Mark Southern Africa (no date) Hass Avocados: A Fruitful Legacy. TMSA Case Studies no 23. "The Hass avocado project is being implemented through the Zambian Small Scale Growers (ZSSG), a producer marketing organisation set up by Mack Multiples, a leading fresh produce importer in the UK, that links Zambian small-scale growers to high value UK markets. ZSSG was initially established in August 2008 with funding from the Commark Trust, an older UK aid-supported project successfully absorbed by TMSA". This summarises the on-going impact of the ZSSG Joint Venture <http://www.trademarksa.org/sites/default/files/publications/16-05-2013%20TMSA%20Case%20Study%20-%20Hass%20Avos%20-%20A%20Fruitful%20Legacy.pdf> Contract and concept note available on request

Impact 3. Evidence to support emerging Policy on Sustainable Livestock in the UK

1. Friends of the Earth (2010) Pastures New. A Sustainable Future for Meat and Dairy Farming: "Pastures New is a new report by Friends of the Earth - based on research by the Royal Agricultural College". PDF available http://www.foe.co.uk/news/pastures_new_24660
2. Sustainability of Livestock Farming and Food Production (Strategy) Bill (2010) <http://www.publications.parliament.uk/pa/cm200910/cmbills/094/2010094.pdf>