The New Optimists

*The New Optimists* currently comprises ~130 regional scientists. It was set up in 2010 to celebrate the work of scientists in the city, and to enable their evidence-based perspective to inform socio-political decision-making. Its launch was with the publication of a book on the first day of the 2010 British Science Festival held in Birmingham.

In 2011, *The New Optimists Forum* began the Birmingham 2050 Scenarios Project to generate possible food futures for the city. This project has had considerable social impact, including spin-offs *Growing Birmingham*, the setting up of the Birmingham Food Council, our Arts Council-funded work on *The Narrativium Project* as well as our input into the Elliott Review.

**Elliott Review: Birmingham**

The Elliott Review was set up by HM Government in response to the horsemeat scandal. They asked Professor Chris Elliott, Director of the Global Food Safety Institute, to lead it.

Last November, the Professor and his team shared with us his interim report, published a fortnight later. They asked us to help them draw up a case study of how a major UK city could tackle food crime for inclusion in their final Report.

To that end, we consulted widely across Birmingham and ran a workshop on 2nd April 2014 at Aston Villa Football Club. People from across the food supply network in the city discussed with Professor Elliott and his Review team what, from their diverse perspectives, was happening in our food supply network here, and what we could do to contribute to its assurance and integrity nationally as well as locally.

This edition of the Elliott Review Birmingham has references to the final Elliott Report published on 4th September, and has been slightly amended in the light of it:

- Section 1 (p3) lists the people we consulted.
- Section 2 (p4-5) lists the outcomes of our consultation exercise, namely services Birmingham institutions have offered Professor Elliott and his team (also listed in the Elliott Report).
- Section 3 (p6-8) asks some questions about our food provenance and authenticity.
- Section 4 (p8-14) is an analysis of the workshop conversations. (An abridged version of this section is in the Elliott Report).
- Section 5 (p15-18) has some useful information diagrams.

My thanks are to everyone who took part, with very special thanks to the workshop participants who provided Professor Elliott with “the most interesting meeting” of the 200 he’d had.

Our rapidly changing food supply systems coupled with increasing global demands on it make all of us vulnerable to threats, natural and man-made, on our food provenance. Everyone who took part in the Elliott Review Birmingham has made a difference, and will continue to make a difference in our collective mitigation against that vulnerability. We’re all indebted to them.

Birmingham, 8th September 2014

*Signature*
I Who we consulted

We consulted the following people from across the food supply network in the city. They came from a diverse range of interest groups, from independent restaurants, national food suppliers and suppliers to the food industry, to environmental health officers and charity workers — plus a sprinkling of New Optimists scientists and social scientists. This first table lists those people who took part in the workshop on 2nd April:

Mohammed Al-Rahim: CEO, Freshwinds
Kabir Amed: Haweli Restaurant, Bearwood
Mo Ashraf: microbiologist Research Fellow, Aston University & Haweli Restaurant
Martine Barons: Research Fellow, Department of Statistics, Warwick University
Adrian Beckett: co-owner of Becketts Farm
Simon Beckett: co-owner of Becketts Farm
Jerry Blackett: CEO, Birmingham Chamber of Commerce
Anthony Bradley: Head of Technical, Minor Weir & Willis
Rosemary Collier: Director, Warwick Crop Centre (an entomologist, specialising in crop pests)
Jane Corbett: Cityserve (part of Birmingham City Council that delivers school meals)
Stewart Davis: Chemistry Manager, Birmingham City Labs
Phil Draper: Quality Leader, Mondelez International
Sinead Edom: Purchasing Manager, Sargeant Partnerships (who own the Handmade Burger Co, Chilacas and Urban Pie)
Ben Foxall: Catering Manager, Queen Elizabeth Hospital Birmingham
Gabe Gabriel: Managing Director, Crucial Sauce Company
Mike Gallagher: Business Development, Sanderson Group plc
John Hill: Technical Director, British Pepper and Spice Co
Paul Joyce: Detective Inspector, WM Police
Jacqui Kennedy: Director, Enforcement and Regulation, Birmingham City Council
Mike Lewis: Head of Marketing at Sargeant Partnerships
Nick Lowe: Environmental Health Officer, Birmingham City Council
Jenny Millward: Head of Environmental Health (South), Birmingham City Council
Sajeela Naseer: Head of Trading Standards, Birmingham City Council
Andrew Nicolson: Assistant Chief Constable, Crime, WM Police
Spike Orion: St Basils
Nigel Payne: Public Analyst, Public Analyst Scientific Services (part of Eurofins)
Jean-Luc Priez: CEO, Lench’s Trust
Aftab Rahman: owner, The Bay Leaf
Peter Reed: Executive Chef, Aston Villa FC
Ben Richardson: Associate Professor, Department of Politics, Warwick University
Jackie Roberts: Development Manager, PHE
Pamela Robinson: Lecturer in Employee Relations (formerly with Tesco), Birmingham Business School
David Roos: CEO Operations, Aldi UK
Madeleine Smith: Teaching Fellow in Food Safety, School of Chemical Engineering, UoB
Mark Stammers: Connolly’s Wines
Jean Templeton: CEO, St Basils
Darryl Thomson: Head of Safety, Mitchells & Butlers
Katharine Vickery: Partner, Eversheds
James Voller: Director of Development, Freshwinds
The table below lists members of the Elliott Review and The New Optimists teams who were also at the workshop, and also people who didn’t attend but were consulted along the way:

The Elliott Review team
Professor Chris Elliott: of Queens University Belfast, and Director of the Institute for Global Food Safety
Sarah Appleby: seconded to the Elliott Review team in November 2013 from the Food Standards Agency
David Foot: Assistant Secretary
Nicholas Hughes: Policy Advisor, DEFRA
Rebecca Kenner: Assistant Secretary

The New Optimists team
Kate Cooper: Founder of The New Optimists; also incoming chair of the Birmingham Food Council
Su Balu: Administrator
Norman Leet: Facilitator
Jamie Stewart: Facilitator
Oliver Tomlinson: Information Designer (from TDL-London)

Live social media reporting was covered by the Podnosh crew: Nick Booth, Steph Clarke, Dan Slee and Jamie Summerfield using twitter #BrumElliott and posting blogs at newoptimists.com/blog

Who else wasn’t there
We didn’t invite supermarkets or other retailers whose HQs are outside the West Midlands. Hence only Peter Blakemore (who couldn’t make it) and the Aldi UK CEO, David Roos were invited; we were very pleased to welcome David to Aston Villa.
It proved impossible to recruit anyone from one of the large catering suppliers. Among these organisations, we sought to invite someone involved in providing meals to prisoners at HMP Birmingham. That story is in Section 4.

2 Outcomes
Since the April workshop, specific offers from the following organisations in Birmingham have been made to Professor Elliott and his Review Team which, collectively, will go a long way in tackling food crime in the UK:

2.1 Food Crime Intelligence Unit
Mark Rogers, Chief Executive of Birmingham City Council, and Jacqui Kennedy, Director of Regulation and Enforcement at the City Council, offer Birmingham City Council services to host a Food Crime Intelligence Unit.

They put forward a hub and spoke model, with Birmingham as the national hub comprising a small highly competent multi-disciplinary team working closely with key stakeholders in other locations where criminality exists — a model already working very...
successfully for the England Illegal Money Lending Team based here. The City Council has in place well-established BSI accredited quality management systems for managing investigations from receipt of information and intelligence through to final prosecution. They also have excellent working relationships with WM Police. (The Assistant Chief Constable (Crime) Andrew Nicolson attended the workshop.)

2.2 Data and data mining expertise

Aston University offer their considerable expertise in computational mathematics, data mining, statistics and forensic linguistics to the intelligence work required in tackling food crime, locally and nationally; e.g. advising on statistically valid sampling plans, designing and prototyping useful software, topic and sentiment analysis of social media.

Professor Ian Nabney is Head of Computer Science and Head of Mathematics in their School of Engineering and Applied Science at Aston University. Dr Tim Grant leads the Aston Centre for Forensic Linguistics, the foremost Centre of its type internationally.¹

2.3 The education and training of Environmental Health Officers

The University of Birmingham Food Safety Group offer their services to the FSA, the CIEH and other relevant bodies to help develop and pilot new training and education courses for Environmental Health Officers.

As the interim report of the Elliott Review pointed out last December, the existing education of EHOs does not provide adequate training in the identification and investigation of food fraud or other criminal elements which may be encountered, and that this gap in training needs to be addressed by altering the basic training to include appropriate techniques and to develop specialist courses for existing EHOs.

The Food Safety Group at the University of Birmingham, led by Madeleine Smith, is a unique unit which currently provides basic, specialist and CPD training in all aspects of food safety for EHOs and other control officials. Their courses are at undergraduate and postgraduate level. Increasingly, the Group has been developing and delivering advanced and bespoke CPD courses at the request of other institutions and overseas authorities, including Local Authorities and International Control Authorities.

2.4 Birmingham Food Council

The Birmingham Food Council was incorporated as a Community Interest Company (CIC) in March this year. It has been set up with three years’ funding from Birmingham Public Health. Professor Chris Elliott has agreed to be on its Panel of Experts.

The Birmingham Food Council CIC Board will seek to maximise its influence on tackling food crime in the city in collaboration with the city’s Director of Regulation and Enforcement and with representatives from the diverse communities in the city.

note: These offers from the city of Birmingham are also listed in Annex N of the final Elliott Report.

¹ Aston Centre for Forensic Linguistics has expertise which has assisted in the disruption and prosecution of online criminal and terrorist networks. Assistance has included operational support for infiltration and the de-anonymisation of key individuals within such networks, and in the training of police and security services in forensic linguistics techniques.
3 Some questions about our food provenance & authenticity . . .

In Professor Elliott’s Preface to his final report he says:

Industry must recognise that audits should be about ensuring a safe, high integrity supply chain that protects their business and their customers . . .

and in his introduction (page 11, para 1.2):

Over the last 20 years a great deal of work has been done to ensure that food is safe to eat, and is free from chemical and microbiological contamination. This has resulted in the UK having one of the safest food supply systems in the world, and all those involved in supplying food and developing and enforcing legislation should be commended for what has been achieved. However, much less attention has been focused on food authenticity, food fraud and food crime.

Our experience in recruiting for the Aston Villa workshop, as well as what we learned about laboratory services suggests that what’s happening (or sometimes not happening!) in Birmingham fits with the Professor’s assessment.

3.1 The large catering companies

As I said in section 1 (page 4), no-one from the large catering companies attended the workshop. Is it significant all of them refused, for one reason or another? Were the people I approached a tad spooked by the notion of talking about food crime, especially with others from outside their company? Or was their reluctance because such companies as these operate with tight profit margins, so that they literally can’t afford someone to take time out from the daily routine?

In conversations, I was told several times about rigorous and robust procedures and the like. Yet no-one was from these organisations was prepared to share their best practice.

Can such companies identify, or afford to identify food crime on their patch? A patch with outsourced catering as in many UK hospitals and schools, or as at HMP Birmingham, where it seems more, perhaps many more than the five organisations we heard about are involved in providing meals.

3.2 A complex food supply network in action: HMP Birmingham meals

Peer-reviewed research tells us that a poor diet affects both body and behaviour. It would therefore be sensible were prisoners offered healthy food, as well as it being a duty of care by the prison authorities on behalf of society. The paltry budgets for prisoners’ meals, however, suggests there is immense difficulty in ensuring an adequately nutritious diet for prisoners, some of whom have medical or other requirements for specific diets. The sheer complexity of the food network into the prison, coupled with tight margins, encourages short cuts, even criminal activity, along tangled supply lines.

It took some dozen telephone calls (plus the patient kindness of switchboard operators!) to be able to talk to anyone at HMP Birmingham responsible for prison meals. I finally spoke someone good enough to give me his time. He explained no-one at HMP

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2 The 2006 NAO report HM Prison Service: Serving Time: Prisoner Diet and Exercise reported that “Expenditure on food is determined by each prison governor who sets a daily food allowance per prisoner. The average is £1.87 for three meals a day but there are wide variations ranging from £1.20 at an open prison to £3.41 at a young offenders’ institution. Young offenders have some of the highest daily food allowances because juveniles eat more than adults.” It’s unlikely the figures given here have changed significantly in the last eight years.
Birmingham had any say in what food to buy, and therefore he saw no point in any of them participating in the workshop.

He was right, other than he could have told us about the opaque provenance of the food prepared in their kitchens. Based on our conversation, the diagram overleaf indicates what I learned — it excludes all of 3663’s procurement practices about which he knew nothing:

3.3 Do we know what’s going on?
During our consultation we heard many stories from low-level cheating to crime on an audacious scale: Urban chicken rustling, pub booze being diluted, water added to foodstuffs, sawdust as well as horsemeat in ‘homemade’ beefburgers, garlic in vast quantities grown in the Far East and labelled here as French, a global supply of manuka honey several times bigger than its harvest, a yet-to-be built overseas fish-processing plant providing fully certificated fish to British buyers who, if not complicit, asked no pertinent questions, cheap liquor sold to nightclub bars from the back of white vans, a meat processing plant set up to take thousands of cattle a year, all rustled.

Despite our sophisticated scientific and intelligence know-how here in the UK, we just don’t know the scope or the extent of of food crime. It’s likely to be widespread; the targeted intelligence-led sampling carried out in West Yorkshire was reported in February 2014 as finding a third of samples mislabeled or unsatisfactory in other ways.

Our ignorance is compounded by the current situation in which the intelligence, inspection, sampling and testing to enforce what is criminal law is carried out by strapped-for-cash local authorities who have no incentive to take responsibility for it.
No routine food testing is carried out by Birmingham City Laboratories; the few formal samples from the city are sent to Public Analysts in Worcestershire or Staffordshire. We’re not alone; the FSA now lists only eleven LA-run official feed and food control labs — there are actually now only ten as Cardiff closed its doors at the end of August. Highly trained experts have either left the profession or migrated to the private sector.

So can we know what’s going on? Tick boxes and labels don’t tell us. Nor do logistics systems, though data-mining and analysis of such systems can sometimes indicate where to look.

Lab testing does tell us, but we don’t know how many samples should be taken, what they should be tested for, when, where and by whom. Even more pertinently, who should commission and pay for food testing, both the intelligence and analysis required for sampling, as well as the lab work itself?

3.4 Tackling food crime: Where are we now?

Food adulteration is as old as human civilisation. At best, we consumers are cheated. At worst, we’re cheated, made ill or even killed. Sometimes stories of these deaths hit the headlines; for example, the infants who died when unscrupulous sophisticated criminals used melamine to boost the “protein” content in baby-milk products in China in 2008.

Given the threats we’re facing, there is a urgent case in everyone’s interests for (i) a national food crime intelligence system, (ii) data analyses of what foods to sample and (iii) testing by adequately resourced laboratories independent from the private business sector and any short-term commercial or budgetary pressures.

Here in Birmingham, we know what to do and we have the relevant expertise to tackle food crime (see section 2). But it will require political will and associated funding at a national as well as local level if we are to come anywhere close to the scenario generated by the workshop participants (see section 5.6).

As Professor Elliott concluded the Preface to his interim report: The costs of delivering the necessary safeguards may seem a burden but the cost of failure is even greater. The integrity and assurance of our food supply matters enormously both in protecting consumers and bolstering the reputation of our food industry. Our common aim must be to regain and enhance public trust.

4 An analysis of the workshop conversations

The Aston Villa workshop generated a lot of information. These raw materials, including links to social media, were collated and given to the Elliott Review team in May and are on-line here with the workshop format on slideshare here.

We also recorded some of workshop conversations, which were transcribed then analysed by Ellie Richards. She took no part in the workshop; the transcripts were the only materials she had in making her analysis. Her brief was to identify themes and patterns. Her full analysis is below.

An abridged version of it (the best case scenario) appears Annex N of the Elliott Report.

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3 The Food Standards Agency’s own statistics show huge variations in the number of food standards samples tested.

4 See Chapter 5 Laboratory Services (pp30-38) of final Elliott Report, in particular paragraph 5.8 in which the Professor states The availability of robust, resilient laboratory capacity to support testing, especially in times of crises, is a growing issue for the UK. . . . The paragraph concludes: a more radical approach is necessary if we are to secure a sustainable public sector laboratory provision in the long term. He recommends shared service provision, as detailed in paragraphs 5.10 to 5.16, though whether or not the six remaining public sector laboratories in England will merge their services in some way is moot. It will, at best, require delicate negotiations and changes in funding and resources (s.a. the responses the Elliott Review team received from the relevant local authorities in Annex I, pages 101-9).
4.1 Drivers, tools and trends

- **reconceptualising food crime**
  - Food crime needs to be understood on a moral as well as a legal basis.
  - We are generally more accepting of technical breaches of the law, where (what we perceive as) ethical boundaries have not been broken.
  - A high tolerance of food crime allows it to continue — we need to redraw the boundaries of acceptability.

- **quantifying the impact**
  - Our understanding of crime demands a victim and a perpetrator.
  - Part of the problem of food crime may be that the perpetrator is unclear (the retailer? the manufacturer? the supplier?) and that the victim (the consumer) is too nebulous.
  - Quantifying the cost to us as society in terms of health, resources etc may help evolve our understanding of food crime as crime.

- **delineating responsibility**
  - A related problem is that it remains unclear where responsibility for food crime (and crime prevention) lies.
  - In complex supply networks it is difficult to ascribe blame, and liability may be passed from one link of the chain to another. Clearly delineating culpability may deter cost-cutting behaviours.
  - Responsibility must also extend to the consumers. Consumers are perhaps the most effective check on our complex and sprawling food industries. Fostering a sense of responsibility and encouraging the consumer to question their food supplies could plug huge gaps in industry regulation.

- **building trust**
  - The food system has become too vast to be policed at every point. Testing and auditing can be improved and resources better targeted, but tackling food crime will always involve an element of trust.
  - Building relations between consumers and suppliers is one important trust relationship. Trust between regulators and business, however, is also key.
  - Their information and resources, if pooled, would be much more effective in tackling food crime, but distrust of regulators and industry competitiveness is hampering progress.
A stronger central body is needed to coordinate the actions of various governmental and industry players. Duplication of efforts is wasteful and ineffective; it is also confusing to the public. A strong centre could also act as an impartial arbiter, overseeing the pooling of industry and government resources, whilst mediating commercial sensitivities. They could also drive tighter market regulation where needed, such as through price control mechanisms.

Where political will exists, change happens. The problem is that at present food issues have little political currency. Quantifying food crime will better equip politicians to argue for greater resources, regulation, etc. Driving food crime up the political agenda is an issue for the general public — an apathetic electorate is incapable of driving policy.

As long as our culture demands cheap foods in high quantities and with cut down price deals, the door to food crime will remain open. Shifting cultural values away from price and towards quality demands a reconnection with food and a re-engagement with our food cultures.

As with all cultural change, education is key. This can occur at several levels; in school, bringing food education back to the centre of the curriculum may yield a valuable inter-generational shift in attitudes and approaches. Community initiatives can also be powerful grassroots vehicles of change.

Educating the public around food crime and reporting procedures is also important if they are to better police the industry.

Close cultural ties to food, strong community engagement with suppliers, industry best practice — all these things exist somewhere and in some form, but they only exist in pockets. The creation of forums for exchanging ideas and disseminating information is central to bring them into the mainstream.
4.2 Food & Birmingham 2014: food itself . . .

food as culture . . .
UK household spend a lower proportion of their income on food than other European societies.
Our spending habits may be a reflection of our cultural preferences; food has lost its value in British society.
Patterns of working and eating have changed dramatically; eating is no longer social glue, but a basic convenience.
A ‘bargain basement’ food culture has gradually evolved where we expect high volume products and increasingly low cost.

...food as waste . . .
- British food culture leads to a high degree of food waste.
- Current levels of waste are unsustainable; it’s placing increasing strain on the UK food systems, in particular on the quality and affordability of products produced.

food as poverty . . .
Food poverty is increasing; food bills are often the first to be cut in times of economic hardship.
Lower economic groups are left heavily exposed to food crime, as financial constraints increasingly restrict choice — compounded by spatial planning decisions that favour the affluent.

...food as crime . . .
- In common understanding, food crime does not exist. It is trivialised as a mistake, deception or fraud, and denied the gravity of crime.
- We can acknowledge that laws are being breached on a technical level, but this lacks moral or ethical weight.

food as health . . .
There is growing awareness of the impact of diet on our health.
This impact is becoming more visible with spiralling increases in obesity and related diseases, in particular diabetes and CHD.
Awareness, however, has yet to spread through population behaviour.
We respond best to short-term cues and the effects of diet often take decades to accrue.
### 4.3 Food & Birmingham 2014: The consumer

<table>
<thead>
<tr>
<th>unaware . . .</th>
<th>or apathetic?</th>
</tr>
</thead>
<tbody>
<tr>
<td>✶ Consumers lack sufficient insight into food supply processes to understand or identify food crime; manufacturers and retailers have better visibility and industry knowledge with which to tackle the problem.</td>
<td>✶ A lack of awareness of food crime is not the main issue — the problem is the level of public acceptance.</td>
</tr>
<tr>
<td>✶ Information given to consumers is often contradictory or confusing; at times it is hard to differentiate between marketing and advice.</td>
<td>✶ Consumers do have a general awareness of food crime, but it is a low priority and widely tolerated.</td>
</tr>
<tr>
<td>✶ Where a consumer suspects crime, they are often unclear as to whom to report the issue or what action to take.</td>
<td>✶ Price is the primary driver of consumer behaviour; ethical and/or criminal breaches may be ignored for the sake of a cheaper product.</td>
</tr>
<tr>
<td>✶ With smaller retailers, the systems are often not in place to alert the consumer to crime.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>driving progress . . .</th>
<th>or fueling crime?</th>
</tr>
</thead>
<tbody>
<tr>
<td>✶ Consumers have strong leverage over retailers; businesses will respond where profit margins come into threat.</td>
<td>✶ Consumers are demanding higher quantities of food and increasingly lower prices.</td>
</tr>
<tr>
<td>✶ The internet, mobile technology and social media are opening ever more avenues for public review. Concerns over reputation may promote better practice.</td>
<td>✶ Price pressures are passed along individual supply chains and deep into the network.</td>
</tr>
<tr>
<td>✶ Supply chains are too vast to be policed by regulatory bodies alone. The public have an important role to play as the regulators’ eyes and ears.</td>
<td>✶ Thin profit margins and the difficulties in absorbing loss encourages cost-cutting behaviours.</td>
</tr>
</tbody>
</table>

### 4.4 Food & Birmingham 2014: The food industry

The principal driver in the food supply network is price . . .

There are low profit margins and a continual top-down pressure to lower costs. Hence an intense pressure to discount goods, and these discounts are often necessary to meet targets, win contracts.

The multiplicity of actors means anyone in the system has limited control of the process. Indeed, there’s usually a de facto loss of control — regardless of audit trails, labelling etc when a buyer moves outside their immediate part of the supply network.

The system, too, encourages players not to ask questions. It’s therefore hard to build or guarantee trust.
Large companies — which increasingly dominate the industry — are impersonal and encourage a disconnect between society and food. It is this that opens the doors to crime.

The supermarkets and other retailers are putting increasing price pressure on suppliers, which encourages cost-cutting and potentially criminal behaviours.

There is a crossover between crimes; illegal food production facilities and outlets often employ illegal immigrants for low wages and in poor working conditions. The mix of threat and vulnerability supports criminal behaviour.

There is little awareness of food crime in the general public, although most are aware that very cheap food has to have been adulterated in some way. Few people, even those working in the industry, however, are aware of the considerable investment some mastermind criminals have made — or the return they are making on that investment.

Food systems have grown highly complex.

Supply networks are often transnational. Cross border transactions, varying industry standards and distinct legal systems render the food sector harder to regulate.

Supply chains are networks — multi-tiered, with dozens if not hundreds of actors. Where checks exist, they often focus on the first tier (manufacturers & retailers) and not on other supplier tiers.

Owing to the range of actors involved, there is a multiplier effect whereby small cost-cutting measures at any stage can radically alter the integrity of the final product.

Local markets and small businesses allow consumers to build relations of trust with their suppliers.

The bigger industry organisations boast a high level of self-regulation which has been key to policing food crime given the public authorities dwindling resources.

Strong technical solutions exist within the industry in terms of testing, auditing etc.

### 4.5 Governance in 2014

<table>
<thead>
<tr>
<th>the regulators</th>
<th>regulation &amp; legislation</th>
<th>resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>The FSA, although initially an effective regulator has lost its teeth. HMG has devolved its responsibilities and it is far less able to regulate the industry.</td>
<td>Food crime on a big scale is a relatively new phenomenon. Gaps in the legislation can make prosecutions difficult to secure. The focus remains heavily on identifying non-compliance incidents rather than amending the processes that lead to non-compliance in the first place. Audits and testing are ‘moments in time’; they do not guarantee the security of the systems in place. Audits are often poorly designed, tick box affairs.</td>
<td>The resources exist to tackle food crime, but they are poorly distributed. There is a growing need for public-private partnerships. There is a dwindling number of local authority laboratories. (editorial note: Concerns about laboratory capacity to deal with a crisis have been highlighted by the National Audit Office.) Even where systems of checks are in place, local authorities often lack the resources to enforce compliance. Decisions taken on a purely financial basis may not be the best for the industry. Revolutions in technology have strong potential, but financial considerations have shut down options for their deployment.</td>
</tr>
<tr>
<td>There is a heavy reliance on big industry to self-regulate, but with little legal obligation to disclose results to regulators. Authorities are trying to build relations of trust within the industry, where disclosure is mandated, regulatory bodies are trying to work with businesses to improve compliance rather than penalise incidences of non-compliance. It is debatable how much clout regulators hold. Prosecutions are limited and fines are sometimes ineffective, especially where heavy discounts are obtained on supplies.</td>
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<td></td>
<td></td>
<td></td>
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</tbody>
</table>
4.6  Food & Birmingham: A best case scenario for 2017

Food has been brought back into focus, socially and culturally.
Food has a perceived value to society and communities within it. This is reflected in eating and shopping behaviours.
Food has a growing place in our education systems, from pre-school to post-graduate studies.
Food is at the heart of the city’s strategic planning. The city has its own ‘food plan’.

There is a high level of public awareness of food crime. Food crime is no longer socially acceptable.
Consumers are aware of where and when to report incidence of food crime, or suspicion of it.
Citizens accept their role as a check and balance on the wider food industry.
More sensitive consumers are more effective deterrents against crime; reputational damage turns meaningfully into monetary damage.

Trust has been fostered between business and regulators and enforcers; the latter do not occupy a solely punitive function, but are used and respected by industry as a resource.
Businesses are more proactive in sharing best practice; there is greater awareness that lack of best practice creates vulnerabilities.
Business communities establish early warning systems which flag up food crimes before they are able to take root in other regions and organisations.
A new sub-sector is developing out of the need for better regulation and policing of the industry. Birmingham is becoming the hub for niche auditing and testing in the UK food supply network.

There is a clear delineation of roles between the various regulatory bodies. A strong central body exists to coordinate work and prevent duplication.
There exists a strong local component in regulatory authorities, bodies with local knowledge and strong local ties.
Regulatory bodies function as knowledge depositories; independent authorities overseeing information sharing allows companies to benefit from a wider pool of intelligence, without jeopardising competitive advantage.
5  Information diagrams

Oliver Tomlinson, director of the information design firm, TDL-London came to the workshop. He created the following information diagrams. High resolution versions are available from him on request.

5.1  Stakeholder signpost

This diagram is Oliver’s version of the links between the Professor’s recommendations in his interim review report published in December 2013 and the stakeholders who need to be engaged.
Further work on the diagram above led to a more informative though more complicated model.

This model lends itself to an on-line interactive version, as illustrated below:
5.2 An easy-to-understand risk analysis model

This risk model has two versions. One is a spider ‘web’ diagram, the other set out as a table, both suitable for on-line formats. Oliver created them in response to what he’d heard at the workshop, and after discussing risk with Ellie Richards (see section 4) and myself afterwards.

Visualising the potential food crime: **WEB METHOD**

Example for one ingredient:

- Possibility of reduced supply choice
- Difference between commodity to end product price
- Number of processed ingredients
- Potential for lack of food source knowledge
- Likelihood of consumer buying budget food
- Ease of counterfeiting

Example for multiple ingredients:

- Ingredient 1
- Ingredient 2
- Ingredient 3
- Ingredient 4
- Overall score

Visualising the potential food crime: **TABLE METHOD**

Example for one ingredient:

<table>
<thead>
<tr>
<th>Difference between commodity to end product price</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice of supply</td>
<td>Lots</td>
<td>No choice</td>
</tr>
<tr>
<td>Number of processed ingredients</td>
<td>Few</td>
<td>Many</td>
</tr>
<tr>
<td>Number of suppliers food travels through</td>
<td>Hardly any</td>
<td>Multiple</td>
</tr>
<tr>
<td>Knowledge of food source</td>
<td>Exact</td>
<td>No idea</td>
</tr>
<tr>
<td>Consumer food budget</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Ease of counterfeiting</td>
<td>Difficult</td>
<td>Easy</td>
</tr>
</tbody>
</table>
5.3 Case studies

Oliver also created information diagrams of a series of case studies taken from Annex G of the interim report.