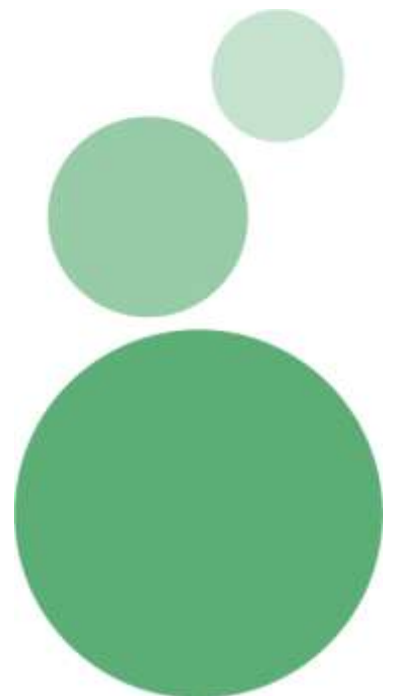




For the Local Better Regulation
Office (LBRO)

Addressing national threats through
local service delivery: Long list of
threats

15 July 2009



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1.0 Introduction

1.1 Project aims and objectives

The Local Better Regulation Office (LBRO) is concerned that in some instances, the current system of local regulation does not sufficiently deal with some threats that have a national aspect. More specifically, the LBRO is concerned that “the current regulatory system may inhibit one local authority from providing a sufficient level of service to areas that benefit the whole (or a large part) of the nation, even when this is clearly in the interests of consumers and business”.

The LBRO commissioned the Matrix Knowledge Group, supported by Kings College, London, to answer the following questions:

1. What is the nature of the problem?
2. What are the relevant national threats¹- i.e. threats that may not be dealt with sufficiently through the current local regulatory system—that should concern LBRO?
3. How significant is each relevant national threat in the abstract (no intervention) case?
4. For selected threats:
 - a. What interventions take place to address the threat?
 - b. What costs are incurred and by whom in implementing these interventions?
 - c. What benefits—in terms of risk reduction and mitigation—do the interventions bring and how are these distributed?
 - d. What are the level, value, and distribution of ‘residual risk’ left after these interventions have been implemented?

1.2 Purpose of this report

This report addresses the first three questions above. Specifically, this report:

1. Describes the problem of potential discrepancy between costs and benefits associated with instances of local authority regulation.
2. Provides a long list of national-level threats that are relevant to the LBRO’s objective of improving the system of local regulation;
3. Provides any evidence from secondary data (i.e., existing research or reports) of:
 - a. costs to the UK if the threats are left unaddressed by regulation; and / or
 - b. costs to the UK when the threats materialised; and
 - c. Presents four threats for more detailed analysis.

¹ Threat is defined as an incident, or series of related incidents, likely to cause damage to the UK and / or its residents.

2.0 Background

Historically, regulation was the primary role of local authorities and it shaped the growth of local governance in the nineteenth century. Although now eclipsed in both political visibility and expenditure by provision of personal services, regulation has remained an important part of local government services and has been extended by legislation at significant points.

The growth in the regulatory role of local authorities followed in large part the urbanisation of Britain. As people came together to live in close contiguity, the threat emerged of negative impacts from both individuals and enterprises. Much public health, noxious trades or fire safety regulation was directed to containing such effects. In the twentieth century local government took on the major role in building and land-use regulation.

In the twenty-first century, the potential for negative impacts outside the local regulatory boundary has increased in scale with greater mobility and interdependence in the population. Accordingly, another level of threat has emerged where a local event may have non-local—even national—spill over effects. Public and animal health issues are a case in point. Local catastrophes are now recognised as having social and economic effects beyond the local government boundary. For example, local disorder is seen by national governments as symptomatic of changing social mores requiring interventions in policing and education. Emergency planning, once a locally-oriented function, is now the subject of broader networks to promote resilience and plan for business continuity and the maintenance of critical infrastructure in terrorism or natural disaster contexts. Hence, as the recent Rogers Review describes, local government regulation helps to mitigate national threats.²

The Rogers Review of local authority regulatory priorities set criteria for national enforcement priorities and selected matters where significant harm could be caused within a local authority area. To qualify as a Rogers priority:

- local authorities should be able to make a difference to outcomes in their locality; and
- it must be dealt with by each local authority independently of others.

This report examines four threats where the national priority may not be met if each local authority does indeed act independently.

² Rogers Review (2007) National enforcement priorities for local authority regulatory services.

3.0 Nature of the problem

There are many potential reasons why the current regulatory system “may inhibit one local authority from providing a sufficient level of service to areas that benefit the whole (or a large part) of the nation, even when this is clearly in the interests of consumers and business”. Such reasons include:

- a range of systemic problems, such as:
 - confusion of local regulators over jurisdiction and authority of the different levels of government and organisations, including themselves, caused by the historical piecemeal approach to the development of regulatory services;
 - inconsistent practices among different local authorities that naturally stem from the decentralised nature of delivery of services and differences in local government structures;
 - the result of the funding mechanisms that allow variation in the weights that local authorities give to regulatory priorities compared to other responsibilities.
- variations in the efficiency, capabilities, and (mis)perception of risk among local authorities that flow from decentralisation; and
- the mis-match between who incurs the costs and who receives the benefits of local authority regulatory services (LARS) that may give local authorities incentives to provide an insufficient level of LARS from a national perspective.

While all these reasons present some cause for concern about the current structure of regulation, the LBRO is particularly interested in the last set of reasons involving the structural mis-match between who incurs the costs of and who benefits from LARS, where the mis-match is between different local authorities, rather than different organisations within a local authority or between local and national regulators. In economic terms such mis-matches are caused by an **externality**. An externality is the unintended impact on a third party caused by someone’s actions. The impact could be positive or negative.

There are many examples of externalities in the world. Common examples are the negative impacts on third parties by polluting factories and the positive impact on neighbours by gardening enthusiasts who fill their front gardens with colourful flowers.

In the world of LARS, such negative impacts can stem from:

1. the *displacement*, rather than elimination, of impacts. For example, disruption of the sale of counterfeit goods in one area may displace sales to another area.
2. the *remote source* of a hazard that LARS addresses. For example, a local authority will incur costs ensuring that goods entering the UK are safe at the point of import. Local authorities across the country where the goods are subsequently sold will benefit from this without incurring the costs.

3. the *conscious shift of costs* from one local authority to another. For example, a port authority might underfund the inspection of goods or vehicles if it knows they are ultimately destined for another port.
4. the *spread of a hazard*³ across local authority boundaries. For example, pollutants from a large warehouse could spread into a neighbouring local authority.
5. the *systemic risk* of collapse of an entire system or market because of the interlinkages and interdependencies involved. For example, a local authority that does not control the movement of animals properly is likely to cause other local authorities to incur costs if an outbreak occurs.

The characteristics of hazards within the scope of LARS that lead to externalities from these sources are:

- the combination of criminal intent and mobility;
- the separation of the location of its source from its impact;
- transportability (i.e., the hazard can be moved from place to place); and
- transmittability (i.e., one occurrence increases the probability of more).

Different hazards exhibit different levels of these characteristics. Weak levels may not be sufficient to make what is essentially a local concern a regional or national concern. For example, pests such as rats might be transportable, and diseases they carry may be transmittable. But these characteristics are not strong enough to make pest control a national issue, though this could change if a new, fatal, and highly contagious disease emerged.

In addition, the size of the potential impact determines whether a hazard rises to the level of a national concern. Hazards that lead to small impacts may not be sufficient to warrant national attention. Hence, the four characteristics listed above and size of the hazard were used to identify a list of threats that are potentially susceptible to the risk of insufficient delivery from a national perspective.

³ Something that can cause harm.

4.0 Long list of threats

To identify national threats where there is a risk of insufficient delivery due to a cost-benefit discrepancy, Matrix first identified a long list of all threats to the UK. We developed this list by conducting a literature review that covered both academic journals and grey literature, and in consultation with the LBRO and the project's expert panel. This long list highlights the threats in three categories.

4.1 Three categories of the long list

The long list of threats is divided into three categories;

1. Category 1 includes threats where there is a potential discrepancy between the local authorities (local authorities) that bear the costs of and those that benefit from regulatory activity. Threats were included in this category if they fit the characteristics described above in Section 3.0.
2. Category 2 includes threats where there is no or limited discrepancy between the local authorities that bear the costs of and those that benefit from regulatory activity.
3. Category 3 includes threats for which there is typically no local regulatory service activity because such activity is done by national organisations.

In this structure, only Category 1 threats are relevant to the project scope and are the 'relevant threats' from which the threats for detailed analysis will be selected.

4.2 Structure of the long list

Within each category, the threats are grouped into similar or related areas, such as 'animal diseases'. The rest of the table has eight columns which are defined as follows;

1. Abstract hazard: a description of something that can cause harm.
2. Conditions: a brief description of the conditions under which the abstract hazard is realised, manifested or exacerbated to become a threat to humans, the economy or the environment.
3. Scenarios: description of the circumstances where the hazard becomes a threat in a scenario relevant to LARS and where there is also a discrepancy between who bears the costs of regulation and who benefits.
4. Responsibility for regulation: the public sector organisation that is responsible for regulatory activity at a national or local level.
5. Relevant legislation: the primary relevant legislation that makes regulatory activity a local authority responsibility.
6. Cost of prevention: secondary data (ie, data found during the literature review) on the cost to local or national regulators on preventing the threat, before it is realised, but excluding, if possible, the cost of containing or mitigating threats that have materialised.

7. Value of direct impacts: secondary data on costs to local authorities and / or other parties (eg, businesses, farmers, etc.) of mitigation when the threat occurs, eg: cost of creating quarantine areas or coordinating culling of livestock, etc.
8. Value of indirect impacts: as for direct impacts, but costs to those who are affected indirectly rather than directly by the threat eg: consumers, tourists, wider UK meat and tourist economy.

All columns have been populated for the first category of threats. Threats in the second category, by definition, do not manifest in scenarios which will make them a relevant threat, and thus the rest of the columns are left empty. The third category is presented as a list of abstract hazards only.

The full long list table can be found in Appendix 1.

4.3 Key findings of the first category

4.3.1 Animal diseases

There are nine abstract hazards for the animal diseases:

1. Avian Influenza (Bird Flu);
2. Bluetongue;
3. Bovine Tuberculosis
4. Classical swine fever
5. Equine Anaemia or Swamp Fever;
6. Foot and Mouth disease (FMD);
7. Rabies;
8. Swine Influenza
9. Transmissible Spongiform Encephalopathy, such as Bovine Spongiform Encephalopathy (BSE) or Scrapie

Although there are other notifiable animal diseases⁴, this report specifically discusses the nine diseases mentioned above as they pose a threat to the welfare of animals and humans presently in the UK. Although, since 2001, Defra is responsible for overall policies on animal welfare, LARS have a significant responsibility alongside other national authorities such as the Environment Agency and Health and Safety Executive for enforcement of legislation⁵. In circumstances of an outbreak of animal disease, the local Animal Health Office (formerly the State Veterinary Service Office) acts *inter alia* as a local Disease Control Centre.

The sources of these threats are either viral or bacterial, depending on the type of the disease. For instance, bovine tuberculosis in cattle is caused by the bacterium *Mycobacterium bovis*; FMD is caused by a virus called *apthovirus*. These diseases can be transmitted from animal to animals and in some cases it can be transmitted to humans. Transmission occurs through direct

⁴ For other notifiable diseases, refer DEFRA in <http://www.defra.gov.uk/animalh/diseases/notifiable/index.htm>

⁵ For details, see Animal Welfare Act 2006, http://www.opsi.gov.uk/acts/acts2006/pdf/ukpga_20060045_en.pdf

(such as breath, saliva, faeces, urine, milk, semen and others) and indirect contacts (movement of people and vehicles, imports of infected meat and others) and also through airborne transmission. In some cases, the infected animals, if not slaughtered, can enter the food chain affecting humans.

There is a range of impacts felt from the outbreaks of animal diseases. Loss to animal lives, loss to farmer's income, productivity loss in farming, and human health, are the most obviously devastating direct impacts. There are other types of indirect impacts such as loss of tourism, loss of confidence in the infected area, environmental pollution, loss of confidence in the animal industry and loss of confidence in the food industry. To minimize and mitigate the impacts, local authorities work in close coordination with other local authorities and national bodies. Activities to minimize and mitigate such as an outbreak include vaccination, cleaning and disinfection, control of movement of animals and humans, and culling animals.

Once the outbreak of an animal disease is notified, the disease can spread easily across local authority boundaries, therefore creating a discrepancy between those who bear the cost of regulating at the source and those who benefit in other areas. The spread of animal disease and their impacts is highly context specific. For example, areas with farm animals or areas with the flight path of birds or areas that trade animals or areas that process animal-by-products may make some areas more vulnerable than others.

4.3.2 Consumer protection

There are eight abstract hazards relating to consumer protection ranging from the misleading of customers through scams to the sale of illegal, counterfeit or restricted goods. The Office of Fair Trading has a number of national enforcement responsibilities relating to consumer protection in the areas of credit, estate agency, unfair contract terms and unfair trading practices. Trading Standards Departments (TSDs) in England, Scotland and Wales are a function of local government and are therefore funded locally (the Department for Enterprise Trade and Investment performs the role in Northern Ireland). TSDs have responsibility for enforcing over eighty Acts of Parliament and related subordinate legislation in areas such as fair trading, consumer safety, weights and measures, consumer credit, under-age sales, food safety and animal health and welfare. TSDs have regard to national and local priorities when carrying out their operational activities.

Consumer protection threats largely arise from intentional human activity driven by the opportunity for economic gain. Largely the threat stems from the act of deception on behalf of the manufacturer, importer or retailer, although irresponsible, negligent or accidental activity can lead to the production and sale of faulty or unsafe goods and services.

These threats have impacts on the consumers, such as loss of money or humiliation and embarrassment at being the victim of a scam or bogus trader. Faulty and dangerous goods, particularly those that are electrical or flammable, and the sale of age-restricted products also impact health and safety. To the wider economy, illicit trade impacts legitimate trade and consumer confidence when products are substandard, faulty or dangerous. Scams, bogus trading and illegal or counterfeit trade is also associated with other crimes such as violence and

organised crime rackets posing a further impact on society. Past experience suggests the risk of crimes associated with serious organised criminals – such as loan-sharking and counterfeit goods – increases during an economic downturn.⁶

There can be a discrepancy between who bears the cost of regulation and who benefits when goods are produced or imported, and thus regulated, in one local authority but are consumed in another or by consumers from another. This is an acute problem for ports of entry for goods into the UK such as seaports and airports. Here, local TSDs must undertake the regulatory activity in their local authority which benefits consumers across the UK. But this discrepancy exists in other ways, for example when:

- consumers from one area travel to another to purchase products;
- bogus traders based in one area travel to other areas to conduct unfair trading practices; and
- consumers purchase goods remotely, such as through the internet.

4.3.3 Food safety

Safety issues relating to food which is produced, processed or imported into the UK, and outbreaks of foodborne disease or food poisoning, may be brought about in a number of ways, including

- microbiological food hazards - contamination through lack of hygiene, poor storage or conditions of use etc at any point in production or processing, or by cross contamination from contact with another product;
- levels of chemical additives in food which are potentially harmful to health;
- the safety of materials that come into contact with food;
- matters connected with food allergy and intolerance.

There are five major foodborne bacteria that, taken together, probably account for the majority of cases of foodborne illness: salmonella, campylobacter, *E. coli* O157, *Listeria monocytogenes* and *Clostridium perfringens*.

The national bodies with a policy interest in regulating imports are the Food Standards Agency and Defra. Locally, enforcement is the role of the Environmental Health Departments of local authorities officers and, where relevant, Port Health Authorities. Enforcement activities include mandatory checks on certain products and discretionary surveillance on other food products. Products that are subject to checks include:

- red meat and poultry and foods containing these;
- fish and shellfish;
- dairy products such as milk, butter, cheese, yoghurt; and
- honey.

⁶ See *Extending our reach: A comprehensive approach to tackling serious organised crime*. Home Office, July 2009. Crown copyright.

The impacts of the manifestation of this threat are to the health of the public if they consume food that contains harmful substances such as illness-causing bacteria or a dangerous chemical. There are also economic consequences to the producer such as the cost of disposal of contaminated items, product recalls and to the wider economy through lost consumer confidence.

The relevant threat scenario, where there is a discrepancy between who bears the costs and who benefits, is similar to that of the consumer protection threats, where the production or importing of food occurs in one place but consumption occurs elsewhere. In particular, the inspection of imported food products is at risk of insufficient delivery. This is because the regulatory authority at the point of import⁷ carries out the enforcement to protect the nationwide food supply chain from contaminated imports.

4.3.4 Environment

There are four abstract hazards for the environment; contamination of air, water, soil and fire or explosion. These are the key areas of the quality of the environment for which LARS have a significant responsibility. Enforcement of environmental protection laws and regulations is the responsibility of locally based Environmental Health Departments and the Environment Agency depending on the particular type and size of the hazard. The Fire and Rescue Services Act 2004 placed a new statutory duty on all fire and rescue authorities to promote fire safety in their area but responsibilities are also given to other local authority regulators.

The source of these threats is anthropogenic, caused by domestic or industrial activity, although these can also be naturally occurring. Gas emissions from industry and use of fertilisers and pesticides in agriculture in particular, have a wide ranging impact on the environment, which may be felt outside the boundary of the local authority which is the source. Fires started accidentally or intentionally are fuelled by the presence of flammable liquids and chemicals and thus the largest outbreaks are not normally at domestic sites.

There is a range of impacts felt from the occurrence of environmental threats. Fire is the most obviously devastating environmental threat, causing injury and fatalities and destroying homes and businesses. Like other types of air pollution, the gases released into the air from a fire contribute to atmospheric and climatic changes such as global climate change and acid rain, the impacts of which can be felt in other localities. Reduced air quality also has health implications such as increased respiratory problems.

Water and soil contamination have environmental impacts whereby the level of contamination may cause a change in the constituent biotic community that it is able to support. In agriculture, the absorption of chemical contaminants into a crop from the soil or from water may cause changes to the plant which can reduce yield. Contaminants from soil which are washed off the land or from other sources such as urban runoff may pose a threat to humans through flooding.

⁷ This may be a local authority or a designated Port Health Authority.

Once released, environmental pollutants can spread easily across local authority boundaries, therefore creating a discrepancy between those who bear the cost of regulation at the source and those who benefit in other areas. The spread of environmental threats and their impacts is highly context specific, for example prevailing wind directions or patterns of water drainage, may make some areas more vulnerable than others.

The full long list table can be found in Appendix 1.

4.3.5 Personal injury in work place

Individual health and safety hazards are largely a local not a national threat, as the impacts are local. But that local authority in which the headquarters of a national company is located can create positive or negative impacts on other authorities. If that authority is diligent in its regulation of the company's health and safety policies, local authorities in which the company's operations are based will benefit accordingly.

4.4 Data availability

The availability of data on each hazard and threat is not consistent across the threat areas. For instance, the threats within the animal diseases have much detailed information on costs and impacts compared to the other three areas, i.e., consumer protection, food safety and environment. This may be due to the recent outbreaks of animal diseases such as BSE, Bovine Tuberculosis, and FMD. As the impacts of these animal disease outbreaks were felt across the UK, there were efforts to estimate the costs and impacts of such an outbreak by various government departments and academics. It is important to note that within the animal diseases, the other abstract threat included in the first category of the long list, such as the Avian Influenza, Rabies, Blue Tongue, Equine Swamp fever, Scrapie, Swine Influenza and Classical swine fever have very limited information on costs and impacts. This may be due to their limited occurrence and the relatively small size of the impacts compared to those resulting from the outbreaks of BSE, FMD or Bovine Tuberculosis. Hence these threats are under researched.

There is some information on the value of indirect impacts of threats within the consumer protection category, viz., counterfeit goods, illegal goods and scams with not much information on the cost of prevention. The information is mainly available from government departments, such as the Home Office and the Office of Fair Trading. Similarly, the threats within the environment and food safety category have limited information. The details on the cost or prevention, direct and indirect impacts for each of the threat are presented in Appendix 1.

5.0 Selected threats for detailed analysis

The selection of threats is based on the principle of (for detail, refer Methodology report, section 2.21):

- stakeholder interest; and
- availability of robust data.

The selected threats for detailed analysis are

1. Safety of imported goods
2. Contaminated import of food not of animal origin
3. Spread of classical swine fever
4. Mobile rogue builders/traders

The methods adopted to conduct such detailed analysis are outlined in the Methods Paper (Section 2.2.2).

6.0 Appendix 1: Long list of threats

Threats where there is a potential discrepancy between the local authorities that bear the costs of and those that benefit from regulatory activity

Description of abstract hazard (ie, something that can cause harm)	Conditions under which abstract hazard is realised, manifested, or exacerbated	Scenario leading to materialisation of relevant threats	Responsibility for regulation (national, local etc.)	Relevant legislation	Cost of prevention (eg, maintaining the 'protective shield')	Value of direct impacts of the materialisation of relevant threats	Value of indirect impacts: ie costs to other parties indirectly affected when the threat occurs (eg, consumers, tourist industry, etc.)
Animal Diseases							
<p>Outbreak of Transmissible Spongiform Encephalopathy such as BSE or Scrapie</p>	<p>BSE involves deformation of prion protein within the brain of the cow.</p> <p>The source of disease can be animal feed containing contaminated meat and bone meal as a protein.</p> <p>Transmission to animals occurs through direct contacts with the tissues of infected animals and to humans through consumption of infected meat, use of cosmetics containing extracts from infected animals.</p> <p>Exposure of humans to BSE infected animals can cause CJDs in human population.</p>	<p>Areas with a dense population of animals and where there is easy movement of animals are considered high risk.</p> <p>If not slaughtered the infected animals can either enter the food chain or expose the threat to more animals and humans across UK.</p> <p>Because the infection can spread, there is a potential discrepancy between the local authorities that regulate to prevent or contain the disease and others that benefit from this regulation.</p>	<p>In 2001 Defra took over responsibility for overall policies from the Ministry of Agriculture, Fisheries and Food (MAFF).</p> <p>Local authorities have responsibilities alongside national authorities such as Environment Agency and the Health and Safety Executive for enforcement of legislation and are regarded as "delivery partners".</p>	<p>Animal Health Act 1981</p> <p>Animal Welfare Act 2006</p> <p>Slaughterhouses Act 1974</p> <p>Contagious Disease (Animals) Act 1869.</p> <p>Since July 2001, the EU TSE Regulation (999/2001) has required any animal suspected of being affected with a TSE to be reported to the competent authorities.</p>	<ul style="list-style-type: none"> • Animal tagging • Premises control • Bio security measures • Education programmes • Intelligence led enforcement 	<p>Impact of 1996 outbreak:</p> <ul style="list-style-type: none"> • Loss of human lives: approximate 80. • Loss of animals: 170,000 to 1.2 m (died from the diseases or having to be destroyed (House of Commons, 2000) • Compensation to farmers: £1.5 b. • Cost in slaughtering, disposal and the storage of cattle: £220 m. • Cost in introducing additional regulation and controls: £25 to £50 m. (Atkinson, 2004) 	<p>Impact of 1996 outbreak:</p> <ul style="list-style-type: none"> • Total economic loss- £740 m - £980 m. • Reduction of exports of cattle – 99%. • Trade loss of live calves from the British dairy herd: £70 m. • Loss of employment: 16,000 – 25,000 jobs. • Environment pollution through disposing of cattle carcasses and effluent passing down drains to sewers and rivers. (Atkinson, 2004) <p>Northern Ireland</p> <ul style="list-style-type: none"> • Gross output reduction for all sectors: £251.5 m. • Reduction in final demand for beef and dairy products: £72.9 m. • Employment loss in the beef industry: 3392 jobs. (Caskie et al 1999)

Description of abstract hazard (ie, something that can cause harm)	Conditions under which abstract hazard is realised, manifested, or exacerbated	Scenario leading to materialisation of relevant threats	Responsibility for regulation (national, local etc.)	Relevant legislation	Cost of prevention (eg, maintaining the 'protective shield')	Value of direct impacts of the materialisation of relevant threats	Value of indirect impacts: ie costs to other parties indirectly affected when the threat occurs (eg, consumers, tourist industry, etc.)
<p>Outbreak of Bovine TB</p>	<p>Bovine TB occurs in cattle and is caused by the bacterium <i>Mycobacterium bovis</i>.</p> <p>Animals are infected by inhalation of small aerosol droplets from the lungs of other infected animals or through the oral ingestion of mycobacteria from farm environments.</p> <p>Infected cattle are potential disease transmitters. In some cases, badgers are potential carriers.</p> <p>Exposure of humans to the disease might cause breathing difficulties.</p>	<p>Areas with dense population of cattle and where there is easy movement of animals are considered high risk areas.</p> <p>The infected animals if not slaughtered can either enter the food chain or expose the threat to more animals and humans across UK via airborne transmission.</p> <p>Because the infection can spread, there is a potential discrepancy between the local authorities that regulate to prevent or contain the disease and others that benefit from this regulation.</p>	<p>In 2001 Defra took over responsibility for overall policies from the Ministry of Agriculture, Fisheries and Food (MAFF).</p> <p>Local authorities have responsibilities alongside national authorities such as Environment Agency and the Health and Safety Executive for enforcement of legislation and are regarded as delivery partners.</p>	<p>Animal Health Act 1981</p> <p>Animal Welfare Act 2006</p> <p>Slaughterhouses Act 1974 (c3).</p> <p>Contagious Disease (Animals) Act 1869.</p> <p>Plus specific Tuberculosis legislation</p>	<p>Costs an average of £27,000 per farm per year (DEFRA, 2007).</p> <ul style="list-style-type: none"> • Animal tagging • Premises control • Bio security measures • Education programmes • Intelligence led enforcement 	<p>Expenditure 2003/04: National</p> <ul style="list-style-type: none"> • Compensation - £34,351. • Testing - £33, 180. • Badger trial - £7,253. • Other research - £12,000. • Staff costs - £1,040. • Total costs - £88,157. <p>Expenditure 2003/04: Southwest</p> <ul style="list-style-type: none"> • Total costs: £42m (Sheppard and Turner, 2005): <p>Cost of culling in the UK during 1998 – 2002:</p> <ul style="list-style-type: none"> • Cage trapping - £1.425 m. • Gassing: £896,250. • Snaring: £922,500. • Farmer licensing: £350,000. (DEFRA, 2007). <p>Compensation for bovine animals slaughtered for Bovine TB, EBL and Brucellosis is calculated in accordance with Regulations.</p>	<p>Farm level economic and social impacts:</p> <ul style="list-style-type: none"> • Loss of bloodlines. • Loss of reputation for pedigree stock producers. • Business restructuring. • Abnormal stress loads for farming families. • Depressive effects on agriculture machinery sales. (Sheppard and Turner, 2005):

Description of abstract hazard (ie, something that can cause harm)	Conditions under which abstract hazard is realised, manifested, or exacerbated	Scenario leading to materialisation of relevant threats	Responsibility for regulation (national, local etc.)	Relevant legislation	Cost of prevention (eg, maintaining the 'protective shield')	Value of direct impacts of the materialisation of relevant threats	Value of indirect impacts: ie costs to other parties indirectly affected when the threat occurs (eg, consumers, tourist industry, etc.)
<p>Outbreak of Foot and Mouth Disease (FMD)</p>	<p>FMD, caused by Aphthovirus affects cloven-hoofed animals.</p> <p>The virus is excreted in breath, saliva, faeces, urine, milk and semen.</p> <p>Transmission occurs through direct and indirect contact between infected animals, meat from infected animals, and through airborne transmission.</p> <p>The disease poses a limited threat to humans.</p>	<p>Areas with a dense population of cloven-hoofed animals and where there is easy movement of animals are considered high risk. The risk of spread is higher if there is free movement of people and vehicles from and into the infected local areas.</p> <p>The infected animals if not slaughtered can either enter the food chain or exposed the threat to more animals across UK.</p> <p>Because the infection can spread, there is a potential discrepancy between the local authorities that regulate to prevent or contain the disease and others that benefit from this regulation.</p>	<p>In 2001 Defra took over responsibility for overall policies from the Ministry of Agriculture, Fisheries and Food (MAFF).</p> <p>Local authorities play an important role in enforcing regulations to prevent the spread of any outbreak.</p> <p>Under the FMD Contingency Plans endorsed by the EC, responsibility for the control of FMD rests with the Minister of Agriculture.</p> <p>In circumstances of a FMD outbreak, a State Veterinary Service Office acts <i>inter alia</i> as a local Disease Control Centre (DCC).</p>	<p>Animal Health Act 1981</p> <p>Animal Welfare Act 2006</p> <p>Slaughterhouses Act 1974</p> <p>Contagious Disease (Animals) Act 1869.</p> <p>Plus specific FMD legislation</p>	<ul style="list-style-type: none"> • Animal tagging • Premises control • Bio security measures • Education programmes • Intelligence led enforcement 	<p>Impact of 2001 outbreak:</p> <ul style="list-style-type: none"> • Loss to agricultural producers: £355 m. • Total payment to farmers: £1341 m • Total direct cost of measures to deal with the epidemic: £1074m (Anderson, 2001) 	<p>Impact of 2001 outbreak:</p> <ul style="list-style-type: none"> • Impact on country's GDP: 2 billion. • Loss to food industry: £170 m. • Loss to agricultural food chain: £85 m. • Loss to tourism industry: £2700 - £3205 m. • Loss to all industries linked to tourism: £1838 m - £2180 m. • Total other costs: £382 m. (Anderson, 2001)

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<p>Outbreak of Avian Influenza</p>	<p>These are pathogenic avian influenza viruses.</p> <p>Waterfowl are the natural host of the viruses. Contact between the natural hosts and poultry, leads to infection causing some birds to die within 24 hours of infection.</p> <p>Transmission occurs through: (1) migratory waterfowl (2) legal trade in poultry and poultry products (3) illegal imports (4) intra-community trade, or (5) movements of people.</p> <p>Two forms of risk to human health: (1) risk of infection with the avian virus; and (2) potential risk of the emergence of a new pandemic strain of type A influenza.</p>	<p>The spread of the disease is dependent on (1) flight path of the birds (2) trade between infected areas.</p> <p>The infected birds if not slaughtered can (1) spread the disease to other birds and humans across UK; and (2) enter the food chain.</p> <p>Because the infection can spread, there is a potential discrepancy between the local authorities that regulate to prevent or contain the disease and others that benefit from this regulation.</p>	<p>In 2001 Defra took over responsibility for overall policies from the Ministry of Agriculture, Fisheries and Food (MAFF).</p> <p>Local authorities play an important role in enforcing regulations to prevent the spread of any outbreak.</p> <p>In circumstances of an outbreak, the local Animal Health Office acts <i>inter alia</i> as a local Disease Control Centre (DCC).</p>	<p>Animal Health Act 1981</p> <p>Animal Welfare Act 2006</p> <p>Slaughterhouses Act 1974</p> <p>Contagious Disease (Animals) Act 1869.</p> <p>Plus specific Avian Influenza legislation</p>	<p>Not available</p>	<p>Not available</p>	<p>Not available</p>

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<p>Outbreak of Rabies</p>	<p>Rabies is a fatal viral disease of the nervous system caused by a rhabdovirus which can affect all mammals including humans.</p> <p>Rabies is transmitted to animals and humans by (1) the bite of an infected animal, when virus-laden saliva is injected into the bite wound, (2) contamination of open wounds, scratches or mucous membranes with infected saliva.</p> <p>Transmission between humans is extremely rare.</p>	<p>Classical rabies was eradicated from the UK in 1922, but because of the existence of the disease elsewhere there is concern regarding infected imports. Once the virus is in the UK, the movement of animals can cause the virus to spread across UK.</p> <p>Because the infection can spread, there is a potential discrepancy between the local authorities that regulate to prevent or contain the disease and others that benefit from this regulation.</p>	<p>In 2001 Defra took over responsibility for overall policies from the Ministry of Agriculture, Fisheries and Food (MAFF).</p> <p>Local authorities play an important role in enforcing regulations to prevent the spread of any outbreak.</p> <p>In view of the potential risk of spill over of disease to mankind, there is close liaison with the Department of Health at both national and local levels.</p>	<p>Animal Health Act 1981</p> <p>Animal Welfare Act 2006</p> <p>Slaughterhouses Act 1974 (c3).</p> <p>Contagious Disease (Animals) Act 1869.</p> <p>EU Regulation 998/2003 on the non-commercial movement of pet animals.</p> <p>Rabies (Importation of Dogs, Cats and Other Mammals) Order 1974(as amended)</p> <p>Non Commercial Movement of Pet Animals (England) Regulations 2004</p>	<ul style="list-style-type: none"> • Animal tagging • Premises control • Biosecurity measures • Education programmes • Intelligence led enforcement 	<p>Not available</p>	<p>Not available</p>

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<p>Outbreak of Blue Tongue</p>	<p>Blue tongue or catarrhal fever is a non-contagious, insect-borne viral disease of ruminants, mainly sheep and less frequently of cattle, goats, buffalo, deer, dromedaries and antelope.</p> <p>It is passed from animal to midge, and from midge to animal, but is not transmitted from animal to animal.</p> <p>There is no known threat to humans.</p>	<p>The virus can (1) be imported into a local authority from abroad or (2) midges can be carried by winds and by human activity, from one local authority to another.</p> <p>Because the infection can spread, there is a potential discrepancy between the local authorities that regulate to prevent or contain the disease and others that benefit from this regulation.</p>	<p>In 2001 Defra took over responsibility for overall policies from the Ministry of Agriculture, Fisheries and Food (MAFF).</p> <p>Local authorities play an important role in enforcing regulations to prevent the spread of any outbreak.</p> <p>In circumstances of an outbreak, the local Animal Health Office acts <i>inter alia</i> as a local Disease Control Centre (DCC).</p>	<p>Animal Health Act 1981</p> <p>Animal Welfare Act 2006 (c.45).</p> <p>Slaughterhouses Act 1974</p> <p>Contagious Disease (Animals) Act 1869.</p> <p>The Bluetongue Regulations 2008 implement Council Directive 2000/75/EC laying down specific provisions for the control and eradication of bluetongue and enforce Commission Regulation (EC) No. 1266/2007</p>	<ul style="list-style-type: none"> • Animal tagging • Premises control • Biosecurity measures • Education programmes • Intelligence led enforcement 	<p>Not available</p>	<p>Not available</p>

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<p>Outbreak of Equine Anaemia or Swamp Fever</p>	<p>This is a viral disease of horses causing intermittent fever, anemia, emaciation and death.</p> <p>The virus is transmitted mechanically through (1) blood-sucking insects or (2) through the use of contaminated blood or (3) blood products, instruments or needles.</p> <p>It is not transmissible to humans (zoonotic).</p>	<p>This is an exotic viral disease that does not occur in Great Britain. Horses are most likely to become affected through (1) travelling abroad to countries where the disease is endemic, (2) from the use of biological products infected with the virus or (3) where there are large numbers of horseflies in proximity to acutely affected horses.</p> <p>Because the infection can spread, there is a potential discrepancy between the local authorities that regulate to prevent or contain the disease and others that benefit from this regulation.</p>	<p>In 2001 Defra took over responsibility for overall policies from the Ministry of Agriculture, Fisheries and Food (MAFF).</p> <p>Local authorities play an important role in enforcing regulations to prevent the spread of any outbreak.</p> <p>In circumstances of an outbreak, a local Animal Health Office acts <i>inter alia</i> as a local Disease Control Centre (DCC).</p>	<p>Animal Health Act 1981</p> <p>Animal Welfare Act 2006</p> <p>Slaughterhouses Act 1974</p> <p>Contagious Disease (Animals) Act 1869.</p>	<ul style="list-style-type: none"> • Animal tagging • Premises control • Biosecurity measures • Education programmes • Intelligence led enforcement 	<p>Not available</p> <p>If a horse is shown to be affected by EIA then the animal is considered to be of negligible value and thus in this case only a nominal sum of £1 is offered by way of compensation.</p>	<p>Not available</p>

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<p>Outbreak of Swine Influenza</p>	<p>Swine flu (swine influenza) is a disease of pigs caused by a virus (influenza virus). Influenza viruses exist as various types and the most common type found in pigs is Type A.</p> <p>Outbreaks among pigs normally occur in colder weather months and with the introduction of new pigs into susceptible herds. When pigs are infected, the virus does not spread to other parts of the body. Carcass meat is not contaminated with virus.</p> <p>Type A strains can infect other species, including people, although the strains of virus involved are usually different.</p>	<p>Areas with (1) dense population of pigs (2) areas with easy movement of animals and people (3) trade in pig and pig products are considered as high risk areas.</p> <p>The infected animals if not slaughtered can expose the threat to more animals and humans across UK.</p> <p>Because the infection can spread, there is a potential discrepancy between the local authorities that regulate to prevent or contain the disease and others that benefit from this regulation</p>	<p>In 2001 Defra took over responsibility for overall policies from the Ministry of Agriculture, Fisheries and Food (MAFF).</p> <p>Local authorities play an important role in enforcing regulations to prevent the spread of any outbreak.</p> <p>In circumstances of an outbreak, the local Animal Health Office acts <i>inter alia</i> as a local Disease Control Centre (DCC).</p> <p>The surveillance prog. Is delivered by the Veterinary Laboratories Agency (VLA).</p>	<p>Animal Health Act 1981</p> <p>Animal Welfare Act 2006</p> <p>Slaughterhouses Act 1974</p> <p>Contagious Disease (Animals) Act 1869.</p>	<ul style="list-style-type: none"> • Premises control • Bio-security measures • Education programmes • Vaccination Contingency planning 	<p>Not available</p>	<p>Not available</p>

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<p>Outbreak of Classical swine fever</p>	<p>Classical swine fever (CSF) is a highly contagious viral disease of pigs. In its acute form the disease generally results in high morbidity and mortality.</p> <p>The main source of CSF appears to be from pigs eating infected pork or pork products.</p> <p>Healthy pigs may be incubating disease and recovered pigs can excrete the virus for long periods of time.</p> <p>The disease is not transmittable to humans.</p>	<p>Areas with (1) dense population of pigs (2) areas with easy movement of infected pigs is a common method of spreading CSF.</p> <p>The virus can exist outside the pig for a long time, so the movement of contaminated vehicles, clothing, footwear and equipment can also spread disease.</p>	<p>In 2001 Defra took over responsibility for overall policies from the Ministry of Agriculture, Fisheries and Food (MAFF).</p> <p>Local authorities play an important role in enforcing regulations to prevent the spread of any outbreak.</p> <p>In circumstances of an outbreak, the local Animal Health Office acts <i>inter alia</i> as a local Disease Control Centre (DCC).</p>	<p>Animal Health Act 1981</p> <p>Animal Welfare Act 2006</p> <p>Slaughterhouses Act 1974</p> <p>Contagious Disease (Animals) Act 1869.</p>	<ul style="list-style-type: none"> • Controls over import of meat and meat products • Ban on swill feeding introduced • Premises control • Pig identification and tracing • Education programme • Biosecurity measures 	<p>Not available</p>	<p>Not available</p>

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Consumer Protection							
<p>Sale of goods or services through bogus trading (including doorstep selling)</p>	<p>Intentional activity involving a degree of deception whereby a customer is cold called and tricked into paying large sums of money for a product or service which is (1) shoddy (2) not as described or (3) disproportionate to the amount charged.</p> <p>Caused by opportunity for economic gain.</p> <p>Vulnerable groups are targeted, in particular the elderly and disabled</p>	<p>Areas with dense populations and within easy access of a main or arterial road are targeted through cold-calling and pressurising sales techniques, most commonly for laying tarmac and drives.</p> <p>The high mobility of traders and the large distance travelled make them difficult to trace.</p> <p>There is a potential discrepancy between the costs incurred by the local authorities in which the rogue traders operate and benefits received by authorities in which the traders are based but do not operate.</p>	<p>TSDs have responsibility for enforcing legislation in areas such as fair trading. TSDs have regard to national and local priorities when carrying out their operational activities.</p> <p>The Office of Fair Trading has a number of national enforcement responsibilities relating to consumer protection.</p> <p>OFCOM has responsibilities regarding unsolicited telephone calls, faxes and emails (and silent calls)</p>	<p>TSDs deal with bogus trading by means of legislation such as The Cancellation of Contracts made in a Consumer's Home or Place of Work etc. Regulations 2008, The Consumer Protection from Unfair Trading Regulations 2008, The Fraud Act 2006, The Proceeds of Crime Act 2002</p> <p>The Enterprise Act 2002 - makes provisions regarding the enforcement of consumer legislation</p>	<p>Not available</p>	<p>Not available</p>	<ul style="list-style-type: none"> • Surrey TSD, estimates average transaction cost of £3,340, with individual cases involving up to £50,000 in 2003. Estimating less than 10 per cent of consumers record complaints gives an estimate of £4.4m impact on customers in Surrey for 9 months period in 2003 (OFT, 2004). • Conservative estimate of total value of goods and services sold is at least £2.4 billion annually • Energy sales are calculated as savings made to the customer through switching suppliers rather than products sold – estimate value of £1.2billion and savings to customers of £85million annually.

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<p>Sale of goods or services through bogus trading (including doorstep selling)</p> <p>Continued</p>							<ul style="list-style-type: none"> • Home improvements (inc double glazing and conservatories) = over £2 billion per year and 90% of double glazing retail distribution. • 70% happy with overall sales process and products purchased. (OFT, 2004) • One in 6 who experienced problem reported it to authorities, eg; police/trading standards • (TSI, 2003)

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<p>Production, import or sale of faulty or dangerous goods</p>	<p>(1) Intentional activity caused by opportunity for economic gain, or (2) negligence on behalf of producer/supplier, or (3) system error produces goods of substandard quality.</p> <p>Goods enter UK market from (1) domestic producers, or (2) international imports.</p> <p>Sale of faulty goods occurs through (1) market for cheap goods (2) poor consumer understanding of potential risks (3) ability to make purchases remotely.</p> <p>Goods not meeting required standards pose a threat to humans through injury and risk of fire.</p>	<p>Products such as toys, low voltage equipment and machinery, are manufactured abroad and do not meet UK safety standards.</p> <p>These goods enter the UK at a port where local TSDs operate.</p> <p>Once through the port, goods enter UK distribution chains and are placed on sale across the UK.</p> <p>The discrepancy is that regulatory activities undertaken by local TSDs benefit other authorities throughout the UK.</p>	<p>TSDs have responsibility for enforcing legislation in areas such as product safety. TSDs have regard to national and local priorities when carrying out their operational activities</p>	<p>Consumer Protection Act 1987 Regulations have been made under this Act which impose safety requirements for a wide range of consumer goods.</p> <p>In addition, the General Product Safety Regulations 2005 impose a general duty on suppliers to ensure that all products are reasonably safe.</p> <p>Enterprise Act 2002 Part 8 - makes provisions regarding the enforcement of consumer legislation</p>	<p>Not available</p>	<p>Not available</p>	<p>Not available</p>

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<p>Consumer is indebted to unregistered credit lender</p>	<p>Loan sharks provide illegal unsecured loans at high interest rates to individuals, normally to those who are excluded from formal financial sector due to low credit rating.</p> <p>Those who use the service are often vulnerable, for example those on a low income.</p> <p>Repayment demands at high interest rates are often backed by intimidation and threats of violence.</p> <p>Lending takes place on the doorstep or in the customer's home and is associated with high levels of other types of violent crime.</p>	<p>The mobility of loan sharks their ability to carry out their work through a network makes it difficult to find the central perpetrator.</p> <p>There is a potential discrepancy if regulatory activity succeeds only in moving the loan shark to operate in a different area rather than stopping them altogether.</p>	<p>A loan shark is an unlicensed moneylender. Licensed moneylenders are regulated by the Office of Fair Trading (OFT) and must follow the OFT's codes of practice.</p> <p>Local enforcement regarding loan sharks is carried out by local TSDs and Government funded regional illegal money lending teams</p>	<p>Administration of Justice Act 1970 and the Consumer Protection from Unfair Trading Regulations 2008 Include offences relating to the harassment of debtors and aggressive commercial practices.</p> <p>Consumer Credit Act 1974 requires most businesses that offer goods or services on credit or lend money to consumers to be licensed by the OFT. Trading without a licensing arrangement is a criminal offence.</p>	<p>Not available</p>	<p>Not available</p>	<p>Since September 2004, the Birmingham and Glasgow illegal money-lending teams have:</p> <ul style="list-style-type: none"> • shut down loan books with value > £7 million; • helped more than 6,000 loan shark victims; • seized and confiscated £260,000 in cash; • secured successful prosecutions which have resulted in sentences totalling more than 33 years for illegal money lending and related criminal activity including assault, wounding, kidnapping, blackmail and possession of firearms. (Twinch, 2008)

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<p>Production, import or sale of counterfeit and pirated goods - intellectual property (IP) crime</p>	<p>Production and sale of goods copied with the intent to deceive with respect to (1) identity, (2) content or (3) source, through intentional activity caused by opportunity for economic gain</p> <p>Counterfeiters target markets where (1) profit margins are high, (2) risks of detections and penalties are low, (3) size of informal markets is big, (4) technological and logistical challenges in production/ distribution are low.</p> <p>Once in the supply chain, products can appear on the shelves of established shops and pose a threat to (1) the legitimate economy or (2) the safety of consumers as counterfeit goods are often substandard.</p>	<p>Goods enter supply chain through a combination of: (1) market demand, (2) domestic producer, (3) imported to the UK via a port where there is limited customs surveillance (4) involvement of organised crime, or (5) ability to make purchases remotely; e.g. by post, TV or internet.</p> <p>There is a potential discrepancy between the costs incurred by the local authority in preventing the operations of counterfeiters and benefits received by other local authorities.</p> <p>The problem of displacement noted above may also apply to sales of counterfeit goods.</p>	<p>The UK's Intellectual Property Office, an executive agency BIS is responsible for granting Intellectual Property rights but is a non prosecuting authority.</p> <p>HMRC, police, SOCA, UK Border Agency are all engaged in IP crime enforcement.</p> <p>TSDs have responsibility for enforcing legislation in areas such IP crime. TSDs have regard to national and local priorities when carrying out their operational activities</p>	<p>Copyright, Designs and Patents Act 1988, Trade Marks Act 1994, Proceeds of Crime Act 2002</p>	<p>Not available</p>	<ul style="list-style-type: none"> • Blindness from counterfeit vodka in 1999. • Burns from counterfeit washing powder in 2000. (Olsen, 2005) 	<p>Threat to welfare of consumer (OECD, 2007).</p> <ul style="list-style-type: none"> • Public institutions are weakened. • Steal market share from legitimate business and undermine innovation. • Encourage criminal activities. • Raises environmental issues since destruction can be a costly process. • Welfare of employees. (OECD, 2007) <p>Current estimate of the loss to all industry sectors in the UK affected by counterfeiting is around £11billion per annum (Anti-Counterfeiting Group, 2009)</p>

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<p>Production, import or sale of mis-described goods</p>	<p>Production and sale of goods which deceive with respect to (1) identity or (2) content or (3) source. Produced through (1) intentional activity caused by opportunity for economic gain or (2) negligence on behalf of producer/supplier or (3) system error.</p> <p>Mislabelled goods are traded when (1) economic margins are high, (2) risks of detection and penalties are low, (3) size of informal market is big or (4) technological and logistical challenges in production/ distribution is low.</p> <p>Once in the supply chain, products can appear on the shelves of established shops and pose a threat to (1) the legitimate economy or (2) the safety of consumers as they are at risk of being misled about the contents</p>	<p>Goods enter supply chain through a combination of: (1) market demand or (2) domestic producer or (3) imported to the UK via a port where there is limited ability of customs to screen shipments or (4) involvement of organised crime.</p> <p>There is a potential discrepancy between the costs incurred by the local authority in preventing the trade of mislabelled goods and benefits received by other local authorities.</p>	<p>TSDs have responsibility for enforcing legislation in areas such as fair trading. TSDs have regard to national and local priorities when carrying out their operational activities</p>	<p>Enterprise Act 2002 (c.17), Part 8 - Makes provision regarding the enforcement of consumer legislation</p> <p>The Consumer Protection from Unfair Trading Regulations 2008</p> <p>Business Protection from Misleading Marketing Regulations 2008</p>	<p>Not available</p>	<p>Not available</p>	<p>Not available</p>

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<p>Production, import or sale of goods in amount or volume less than described</p>	<p>Production and sale of goods which deceive with respect to (1) amount or (2) volume from (1) intentional activity caused by opportunity for economic gain or (2) negligence on behalf of producer/supplier or (3) system error.</p> <p>These goods are traded when (1) economic margins are high, (2) risks of detection and penalties are low, (3) size of informal market is big or (4) technological and logistical challenges in production/ distribution is low.</p> <p>Once in the supply chain, products can appear on the shelves of established shops and pose a threat to (1) the legitimate economy or (2) the safety of consumers.</p>	<p>Goods enter supply chain through a combination of: (1) market demand, (2) domestic producer, (3) imported to the UK via a port where there is limited ability of customs to screen shipments, or (4) involvement of organised crime.</p> <p>There is a potential discrepancy between the costs incurred by the local authority in preventing the trade of mislabelled goods and benefits received by other local authorities.</p>	<p>The National Measurement Office works with TSDs to deliver the local enforcement of most of the UK's weights and measures legislation.</p> <p>TSDs have responsibility for enforcing legislation in areas such as weights and measures. TSDs have regard to national and local priorities when carrying out their operational activities</p>	<p>Enterprise Act 2002 (c.17), Part 8 - Makes provision regarding the enforcement of consumer legislation</p> <p>Weights and Measures Act 1985</p>	<p>Not available</p>	<p>Not available</p>	<p>Not available</p>

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<p>Loss of consumer confidence and local market failure</p>	<p>Local market failure is the inability of a local market to behave normally due to a shock in the local economy.</p> <p>The impacts vary depending on the nature of the shock but typically affect humans and the economy. The shock, originating in one sector, can have ripple effects in the local economy affecting other sectors.</p>	<p>Shocks can be: (1) shortage of supply – food, fuel, medicines, etc. either due to a domestic or an international event leading to panic buying, (2) widespread fear of economic recession due to an event in the UK or abroad, (3) high level of criminal activity in the local area, (4) natural disasters or (5) outbreaks of human/animal diseases.</p> <p>Since the impacts of market failure are felt outside the local authorities there is discrepancy between who pays for preventing the market failure and who benefits out it.</p>	<p>The responsibility depends on the conditions under which the market failure is realised.</p> <p>For instance, in the event of an animal disease, Defra is responsible for regulating and preventing in association with local bodies.</p> <p>In case of market failure arising from local trader problems, typically the local TS is responsible.</p>	<p>Examples include: Environmental Protection Act 1990 (c.43) - Makes provision regarding the control of pollution from industrial and other processes</p> <p>Enterprise Act 2002 (c.17), Part 8 - Makes provision regarding the enforcement of consumer legislation.</p> <p>Section 17 of the Crime and Disorder Act 1998 and Section 2 of the Local Government Act 2000 relate to economic social and environmental well-being</p>	<p>Due to the 2001 FMD outbreak, the Government has provided rural firms and rural areas various aid packages accounting 275 m.</p>	<p>Due to the 2001 outbreak of FMD,</p> <ul style="list-style-type: none"> • Number of infected farms: 8000. • Animals slaughtered: 2.5 million. 	<p>FMD has compounded many economic pressures including:</p> <ul style="list-style-type: none"> • Rural shops, pubs, hotels, guesthouses and visitor attractions. • Loss to the tourism industry: = £5 billion. • Loss to agriculture = £775 m. • Rural firms affected in the hospitality sector = 67%. • Rural firms affected in the recreation and cultural sector = 50%. • Rural firms affected in the transport sector = 30% • Rural firms affected in the retail sector = 30%

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<p>Consumer mislead by scam</p>	<p>A misleading or deceptive business practice where one receives an unsolicited or uninvited contact through (1) email, (2) letter, (3) phone or (4) advert, and false promises are made to con consumer out of money.</p> <p>Victims can get trapped through (1) persuasive or individualised approach used by scammers (2) scammers creating a genuine need for a service on offer (3) vulnerable consumer group targeted (4) considering scam to be worth a risk (5) perceiving scam to be legitimate or (6) getting caught off guard.</p>	<p>Factors contributing to a scam; (1) large number of small businesses in a densely populated area encourages cheap mass communication, (2) high concentration of people take advantage of modern media, (3) people disclose personal details, (4) people in need of money.</p> <p>Because the scammers can operate in one local authority and the victims can be based in another local authority or country, there is potential discrepancy between who pays and benefits from the prevention.</p>	<p>TSDs have responsibility for enforcing legislation in areas such as fair trading. TSDs have regard to national and local priorities when carrying out their operational activities</p> <p>The OFT and Serious Organised Crime Agency are leading on the development of a National Strategy for tackling mass marketed fraud, which includes developing more effective consumer awareness campaigns to help consumers recognise and resist mass marketed scams.</p>	<p>The Consumer Protection from Unfair Trading Regulations 2008</p> <p>Business Protection from Misleading Marketing Regulations 2008</p> <p>The Enterprise Act 2002 (Amendment) Regulations 2006 in effect, places a duty on the OFT and TSDs (and others) to ensure the UK meets requirements of Regulation (EC) No. 2006/2004 on Consumer Protection Co-operation (CPC).</p>	<p>Not available</p>	<p>Direct cost of scams to UK consumers: £3.5 b a year which includes:</p> <ul style="list-style-type: none"> • Holiday club scams: £1.17 b. • High risk investment scams: £490m. • Pyramid and get-rich quick scams: £420m. • Foreign lottery scams: £260m. • African advance fee frauds/foreign money making scams: £340m. • Property investor scams: £160m. • High risk investments scams: £490 m. (OFT 2006). 	<p>Fraud losses in the UK (2005-2006): £6.434 b. (OFT 2006)</p>

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Environment							
Contamination of land/soil	<p>(1) Intentional or (2) negligent or (3) accidental discharge of pollutants into the soil from industrial or domestic source to a hazardous level.</p> <p>Source of pollutants include (1) agricultural fertilisers (2) unsecure hazardous, toxic waste or chemical disposal, (3) rupture of underground storage tanks (4) percolation of contaminated surface water into soil (5) direct discharge of industrial waste (6) leaching of wastes from landfill sites.</p> <p>Pollutants in soil can lead to increased uptake by crops or animals leading to (1) bioaccumulation or (2) reduced yield.</p> <p>Common soil pollutants are petroleum hydrocarbons, solvents, pesticides, fertilisers, lead and other heavy metals.</p> <p>Some contaminants such as arsenic are also naturally occurring, due to underlying geology for example.</p>	<p>In agricultural areas, application of phosphate fertilisers and pesticides are either (1) washed off (2) absorbed into the crop or (3) eaten by livestock and digested. In plants and animals. If the run-off enters a water course it may potentially affect water treatment processes.</p> <p>Discrepancy occurs where (1) contaminated produce is consumed outside the local authority boundary causing harm to humans or livestock, or (2) when pollutant run-off crosses local authority boundaries and causes contamination elsewhere.</p> <p>Contaminated soil may also be moved for engineering purposes giving opportunity for contaminants to escape.</p>	<p>Defra oversees contaminated land legislation and assists local authorities in investigating and remediating contaminated land.</p> <p>Local authorities are the principal regulators under contaminated land legislation through Environmental Health officers.</p> <p>There is close liaison with the Environment Agency, particularly when sites may qualify as "special sites" or on contamination affecting controlled waters.</p> <p>The planning system also has a role in terms of incentivising 'clean up' though conditions on planning consents.</p>	<p>Environmental Protection Act 1990 - Makes provision regarding the control of pollution from industrial and other processes, and waste management.</p> <p>The Environmental Damage (Prevention and Remediation) Regulations 2009.</p>	Not available	<p>People affected by contamination may move from one area to another.</p> <p>Not available</p>	Not available

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<p>Contamination of air</p>	<p>(1) Intentional (2) negligent (3) accidental release of air pollutants.</p> <p>Sources: (1) emissions from motor vehicles (2) burning of fossil fuels (3) deforestation (4) industrial emissions (5) agricultural processes (6) fumes from waste decay, eg; radon gas (7) aerosol fumes.</p> <p>Air pollutants lead to (1) atmospheric and climatic change (including acid rain and global warming) or (2) reduced air quality or (3) increased respiratory problems.</p> <p>Common pollutants are: carbon dioxide, carbon monoxide, sulphur dioxide, nitrogen oxide, volatile organic compounds, ammonia, chlorofluorocarbons, particulate matter, radioactive pollutants.</p>	<p>Emissions are released from (1) industrial or (2) agricultural or (3) domestic sources and can be transferred to, and deposited outside the local authority boundary.</p> <p>Deposition of pollutants such as nitrogen and sulphur causes acidification of water and soils leading to acid rain which are detrimental to crops, forests and fish populations.</p> <p>Because air pollutants travel freely through the air, there is a disparity between the source of the pollutant and the impact. Hence there is a discrepancy between the local authority that regulates the source and downwind local authorities that benefit from regulation.</p>	<p>Both the EU and UK Government have passed legislation for reducing emissions of greenhouse gases from UK sources.</p> <p>Defra has an Air Quality Strategy in place.</p> <p>Locally, EHDs are responsible for regulating the emissions of certain types of installations. The Environment Agency is responsible for others.</p> <p>Local authorities are required to carry out assessments of air quality in their area against standards and objectives in the national Air Quality Strategy.</p>	<p>Clean Air Act 1993 - Makes provision regarding the omission of smoke, grit and dust from chimneys, smoke control areas and control of certain types of pollution.</p> <p>Environment Act 1995 (c.25) - Makes provision regarding contaminated land and abandoned mines, national parks, air quality and powers of entry</p> <p>Environmental Protection Act 1990 (c.43) - Makes provision regarding the control of pollution from industrial and other processes.</p>			<ul style="list-style-type: none"> • Economic losses from acid rain in Europe are estimated to be 3-5% of GNP including reduced returns on fishing, tourism, crop yields and extra cost to domestic water treatment (Burnett, 1990) • Air pollution is currently estimated to reduce the life expectancy of every person in the UK by an average of 7-8 months with estimated equivalent health costs of up to £20 billion each year. Air pollution also has a detrimental effect on our ecosystems and vegetation.(Defra, 2007)

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<p>Contamination of water</p>	<p>(1) Intentional, (2) negligent, or (3) accidental release of anthropogenic contaminants into water.</p> <p>There are three sources of water pollution, (1) point-source pollution discrete source (2) diffuse pollution from agriculture, or (3) Diffuse pollution from other sources.</p> <p>Contaminated water can spread through flooding, heavy rains, and rivers affecting both humans and environment.</p>	<p>Contaminated water is either (1) washed off and pollutes the ground and surface water, (2) absorbed into the crop, (3) use by humans and animals or (4) pollutes the environment</p> <p>Because the contaminated water is consumed outside the local authority boundary causing harms to humans or livestock across local authority and contaminates the environment outside the LA, there is a potential discrepancy between the local authorities that regulate to prevent or contain the disease and others that benefit from this regulation.</p>	<p>Defra is responsible for all aspects of water policy in England.</p> <p>The Environment Agency manages water resources and enforces water quality standards)</p> <p>Locally EHDs protect water quality by, among other activities sampling the public water supply and checking private water supplies.</p> <p>PCTs and the HPA have statutory responsibility to protect the public health from environment hazards once they occur.</p>	<p>Environmental Protection Act 1990 (c.43) - Makes provision regarding the control of pollution from industrial and other processes</p> <p>Pollution Prevention and Control Act 1999 (c.24) - Makes provision for the regulation of polluting activities, and regarding time limited disposal or waste management licences.</p> <p>Other relevant legislation – Water Act 1989. Water Resource Act 1991. Water Industry Act 1991 Environment Act 1995. Water Act 2003. The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 - Scotland and Northern Ireland also have equivalent regulations.</p>	<p>Not available</p>	<p>Not available</p>	<p>Not available</p>

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<p>Outbreak of major fire or explosion</p>	<p>(1) Intentional or (2) negligent or (3) accidental activity causes an explosions or fire at a (1) domestic or (2) industrial or (3) natural site.</p> <p>Fire is fuelled by the presence of flammable materials, for example chemicals or domestic furnishings.</p> <p>Combustion releases high levels of carbon dioxide into the atmosphere.</p>	<p>Emissions released from a large-scale fire can be spread outside the boundary of the Local Authority depending on local conditions such as wind direction.</p> <p>Thus a disparity occurs between the source of the pollutant and the impact, including the release of carbon dioxide, smoke and particulates from the fire, causing harm to the environment and a reduction in air quality.</p>	<p>In 2001 responsibility for the Fire Service and fire policy was transferred to what is now DCLG.</p> <p>Locally, regulatory activity to prevent fire is a joint responsibility between building and health and safety regulators, fire brigades and community fire policies.</p>	<p>Fire and Rescue Services Act 2004 - Makes provision regarding fire safety and the promotion of fire safety.</p> <p>Regulatory Reform (Fire Safety) Order 2005 - Makes provision relating to the duties of Fire Authorities and Fire Safety.</p> <p>Other specific legislation including the Dangerous Substances and Explosive Atmospheres Regulations 2002</p>	<p>1999 costs:</p> <ul style="list-style-type: none"> • fire protection = £2,780 million • fire safety = £30million (Home Office, 2001) 	<p>1999 costs:</p> <ul style="list-style-type: none"> • total cost of response to fire = £1,020million. • Of this, fire services responding to fires accounts for £1 billion (Home Office, 2001) <p>Response to the Buncefield fire in 2005 included extra costs such as:</p> <ul style="list-style-type: none"> • £5,000 from the County Council, • grants from central government (£200,000 Learning and Skills Council, £10,000 for school counselling) • £10,249 from the National association of Citizen's Advice Bureaus for investing in communities (SQW, 2007) 	<ul style="list-style-type: none"> • 1999 total cost of fire estimated as £6.9 billion with commercial fires accounting for over 40% of this. • Costs 'in anticipation of fire' = £3.3 billion and costs 'as a consequence of fire' = £2.5 billion (Home Office, 2001) • After Buncefield, loss of business for SMEs due to inability to deliver orders was estimated at £100million. • 244 people were sent to A&E although there were no fatalities (SQW, 2007)

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Food safety							
<p>Production, import or sale of contaminated food product</p>	<p>Food poses a threat to human health if contaminated with (1) naturally occurring bacteria that can cause illness, or (2) cross contamination with infected product, (3) a poisonous substance</p> <p>Contamination caused by (1) intentional, (2) accidental or (3) negligent activity</p> <p>Infected produce enters UK market from (1) domestic producers, or (2) international imports, or (3) poor hygiene in food preparation premises in the UK.</p> <p>Consumption of contaminated foodstuff causes health hazard to humans.</p>	<p>Imported goods enter UK distribution chains via entry at a port and are placed on sale across the UK. Food products that are used as ingredients in multiple food products may spread very quickly and in ways that is difficult to trace. For example mycotoxins in products entering the UK from outside the EU.</p> <p>Regulatory activities undertaken by local authority EHDs and Port Health Authorities have implications throughout the UK.</p>	<p>Defra and the Food Standards Agency are responsible for regulating food safety.</p> <p>Enforcement and inspections are carried out by (1) local authorities in Great Britain, (2) DARDNI in N Ireland and (3) PHAs.</p> <p>Food safety is the remit of EHDs and food standards is the remit of TSDs.</p>	<p>Food Safety Act 1990 Parts 2 & 3 – Makes provisions and associated offences relating to food safety, the selling of unfit food, inspection and enforcement etc.</p> <p>EU Regulations such as 852/2004; 853/2004 and 882/2004 amongst others as well as the England/Wales/Scot and/NI Hygiene Regulations and Official Control Regulations.</p>	<ul style="list-style-type: none"> • FSA became operational in 2000. It has a resource budget of around £143.8m in 2007/08 (NAO & BRE, 2008) • Surveillance of products for Salmonella are estimated to yield 3.5 fold return to public sector and 23.3 fold return to society on investment (Roberts, 1989) 	<p>Not available</p>	<ul style="list-style-type: none"> • 2003 – 16343 laboratory – confirmed cases of salmonellosis in the UK (Hill et al, 2007) • Salmonella outbreak from imported chocolate: cost to manufacturer of £92,000 as result of recall and destruction of stocks in UK (Robert, 1989) • Cadburys fined £1 million for knowingly selling chocolate contaminated with salmonella 2007.(BBC, 2007)

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Personal injury in work place							
<p>Various health and safety hazards—see individual threats under 'Personal injury in work or a public place' below</p>	<p>The workplace can pose risks to health, or can be dangerous particularly in the fields of engineering and construction. These risks should be identified and controlled by the duty-holder (the employer). Where this does not happen, employees can suffer injuries, ill-health or death in extreme cases.</p>	<p>The individual health and safety risks do not present a nationally relevant threat. However weak risk management practices of a company that has facilities in many local authorities is a national threat.</p> <p>The threat is relevant because the local authority of a company with facilities in which the headquarters is located can create positive or negative impacts on other local authorities depending on how seriously it regulates the company's health and safety policies.</p> <p>The Lead Authority and Primary Authority schemes are in place to mitigate this national threat.</p>	<p>Health and Safety Executive (HSE), and local Environmental Health services.</p>	<p>Among others:</p> <p>Health Act 2006</p> <p>Health and Safety at Work etc Act 1974</p> <p>Fire Safety and Safety at Places of Sport Act 1987</p>	<p>Not available</p>	<p>The HSE regularly collects and reports data on workplace injuries (eg, in 2007/08 the reported number of workplace injuries was 6 million).</p>	<p>Not available</p>

Threats where there is no or limited discrepancy between the local authorities that bear the costs of and those that benefit from regulatory activity

Please note this list does not cover the totality of what environmental health and trading standards services deliver.

Description of abstract hazard ie, something that can cause harm	Conditions under which abstract hazard is realised, manifested, or exacerbated
Animal and pest control	
Attacks from domestic animals	<p>Animals that live in physical proximity to humans, such as pets and guard animals. These may include house cats, dogs, horses, etc.</p> <p>Animal attacks are usually either provoked or unprovoked. A provoked bite would occur if the animal is teased and an unprovoked attack may occur with no known reason.</p> <p>Attacks by some domesticated animals, such as dogs, on humans may result in serious bodily injuries and in extreme situation might cause death.</p>
Attacks from non-domestic animals	<p>Animals considered to be naturally wild and not naturally trained or domesticated; or which are considered to be inherently dangerous to the health, safety, and welfare of people. E.g., reptiles, lions, etc.</p> <p>Animal attacks are (1) provoked or (2) unprovoked. A provoked bite would occur if the animal is teased and an unprovoked attack may occur with no known reason.</p> <p>Attacks by some non-domesticated animals on humans may result in serious bodily injuries and even fatality.</p>
Infestation of pest	<p>Pests are referred to as harmful animals and organisms causing harm or damage to people, their animals, crops or possessions.</p> <p>Outbreaks of pests occur due to ecological factors such as (1) temperature or (2) mono-culture of crops or (3) introduction of plants to new locations or (4) weather pattern or (5) migration.</p> <p>Pests may pose a threat to humans in causing (1) body injuries, (2) allergies or (3) economy, for example in agriculture.</p>
Consumer Protection	
Sale of age-restricted goods/services to underage consumers	<p>Sale of goods to customers below an age limit due to (1) intentional activity caused by opportunity for economic gain or (2) negligence on behalf of producer/supplier or (3) system error.</p> <p>Goods/services in this category are unsuitable for young people as they are considered to present real risks to their health or welfare, for example alcohol, knives, fireworks, some films and gambling.</p>
Domestic buildings	
Collapse of building	<p>The causes of building collapse can be (1) bad design or (2) faulty construction or (3) foundation failure or (4) extraordinary loads or (5), unexpected failure modes or (6) combination of causes.</p> <p>A building collapse might cause multiple injuries and fatalities to humans including death.</p>

Description of abstract hazard ie, something that can cause harm	Conditions under which abstract hazard is realised, manifested, or exacerbated
Building provides sub-standard living environment	<p>Housing that contains hazards to health or safety.</p> <p>Substandard conditions in housing affect residents' daily lives, exposing them to such hazards as inadequate heat, disrepair, inadequate fire safety arrangements and hazards from falls. Living in substandard housing can have serious repercussions for residents' health (especially children), such as an increased incidence of asthma.</p>
Outbreak of fungal disease	<p>Any condition caused by fungus.</p> <p>There are different types of fungal diseases and causes may be (1) drug, (2) medication, or (3) exposure to various environment, such as damp areas in buildings, etc..</p> <p>Humans exposed to fungal diseases can suffer from (1) damaged skin or (2) immunocompromise (3) AIDS or (4) chronic diseases.</p>
	<p>A person or family may be in need of re-housing for many reasons. Priority is given to 'reasonable preference groups': (1) the homeless (2) people occupying insanitary, overcrowded, or otherwise unsatisfactory housing (3) people who need to move for medical or welfare reasons, including ground relating to a disability, and (4) people who need to move to a particular location and who would suffer hardship if they were unable to do so .</p> <p>Local population where the tenants are re-housed must fund their expanded dependent population.</p>
Local community and environment	
Incident of fly-tipping	<p>Illegal deposit of any waste_onto land, i.e., waste dumped or tipped on a site with no license to accept waste.</p> <p>Fly-tipping will occur where perceived benefits exceed perceived costs, where weaknesses in collection and disposal services provoke those with waste to get rid of, and where those producing and disposing of waste are ignorant of their responsibilities for or methods of disposing of it lawfully.</p> <p>It can cause serious pollution of the environment, be a risk to human health and harm wildlife and farm animals.</p>
Incident of vehicle abandonment	<p>Any vehicle which has been left unattended on any county highway or on any public or private property for more than forty-eight is deemed abandoned and constitutes a public nuisance.</p> <p>Abandoned vehicle might create fire and health and safety hazards to humans.</p>
Incident of anti-social behaviour	<p>Aggressive, intimidating or destructive activity that damages or destroys another person's quality of life. E.g., rowdy behavior, street drinking, etc.</p> <p>Deprivation and social exclusion, characterised by problems such as poor housing and unemployment, encourage anti-social behaviour.</p> <p>Anti-social behaviour might lead to (1) physical injuries or (2) destruction of the community or (3) destruction the natural environment.</p>

Description of abstract hazard ie, something that can cause harm	Conditions under which abstract hazard is realised, manifested, or exacerbated
Noise pollution	
Noise pollution: prolonged exposure to unacceptable noise level	<p>Human or machine created sound that disrupts the activity of humans or animal life.</p> <p>Source of noise pollution may be (1) transportation systems or (2) poor urban planning or (3) office equipment or (4) factory machinery or (5) construction work or (6) barking dogs or (7) loud speakers, etc.</p> <p>Noise pollution can cause hypertension, high stress levels, tinnitus, hearing loss, sleep disturbances, and other harmful effects. Chronic exposure may cause hearing loss. High noise levels can contribute to cardiovascular effects.</p>
Personal injury in work or a public place	
Activity causing musculoskeletal injury	<p>(1) Intentional activity, (2) accident or (3) negligence leads to overuse of muscles during activity.</p> <p>This is the most common occupational injury in Great Britain and is typically caused by activities such as lifting, lowering and carrying heavy loads or pushing and pulling</p> <p>Muscle strain or damage most often affects the back and upper limbs, and in some cases causes severe pain and lasting damage.</p>
Slips, trips, falls and other accidents in the workplace	<p>(1) Intentional activity, (2) accident, (3) negligence or (4) system error leads to slippery or obstructed pathway or a fall from height.</p> <p>Slips and trips are most commonly caused by flooring, contamination and obstacles, people, environment and footwear.</p> <p>Falls at work are commonly from ladders, machinery, open edges, through roof lights or through fragile roofs</p> <p>Incidents such as these pose a threat to human safety.</p>
Injury from unsafe or faulty equipment	<p>(1) Intentional activity, (2) accident, (3) negligence or (4) system error means equipment is either unsafe to use normally or has a fault which poses a danger to humans.</p> <p>Causes may be not checking the machine, misuse, lack of training, not following safety procedures or sudden fault.</p> <p>Equipment faults may be a cause of other health and safety threats, such as leaks leading to slips.</p>
Exposure to high levels of mental pressure	<p>Workplace stress can be caused by issues related to demand, control, support, relationships, role or change.</p> <p>It is a major cause of occupational ill health and particularly leads to time off work owing to illness.</p>

Description of abstract hazard le, something that can cause harm	Conditions under which abstract hazard is realised, manifested, or exacerbated
Work environment containing respiratory irritants ; fumes, particulates and fibres	<p>(1) Intentional activity, (2) accident, (3) negligence or (4) system error leads to harmful level of pollutants released into air.</p> <p>Working in environments containing clouds of dust, fumes, powdered chemicals (such as latex), vapour (such as from metal working fluids), fibres (such as asbestos) are high risk.</p> <p>Breathing in pollutants poses a threat to health, causing respiratory illness such as occupational asthma.</p> <p>Asbestos poses a serious risk to human health as it can lead to fatal conditions such as mesothelioma or lung cancer.</p>
Exposure to unacceptable noise level	<p>Exposure to intrusive noise levels for the majority of a working day from sources such as machinery or equipment, music, impact noises (such as hammering), explosive noises (such as detonators)</p> <p>Exposure to high noise levels due to (1) intentional activity, (2) accident, (3) negligence, presents a threat to hearing such as tinnitus or occupational deafness.</p>
Exposure to dangerous chemicals	<p>(1) Intentional activity, (2) accident, (3) negligence or (4) system error leads to human exposure to dangerous chemicals.</p> <p>Incidents which occur during production and packaging, transport, storage or use can pose a threat to human health.</p>
Repetitive overuse of muscles	<p>A whole group of conditions is 'upper limb disorders' caused by regular repetitive motion or bad posture.</p> <p>Lack of knowledge is a major cause of this problem and most injuries can be avoided.</p> <p>Usually these disorders do not last, but in a few cases they may become persistent or even disabling.</p>
Injury related to vibration	<p>Regular exposure to hand-arm vibration can cause a range of conditions known as Hand Arm Vibration Syndrome (HAVS) which includes vibration white finger and carpal tunnel syndrome. Similarly whole-body vibration can cause back pain or make this worse.</p> <p>High risk vibratory equipment includes hammer drills, chainsaws and powered mowers. There is also a risk from holding work pieces, which vibrate while being processed by powered machinery such as pedestal grinders.</p>
Injury related to use of Display Screen Equipment (DSE)	<p>Where problems occur relating to screen equipment, they are generally caused by the way in which VDUs are being used, rather than the VDUs themselves.</p> <p>Prolonged VDU use may result in headaches cause by screen glare, poor image quality or reading the screen for long periods without a break.</p> <p>Extensive research has found no evidence that VDUs can cause disease or permanent damage to eyes. But long spells of VDU work can lead to tired eyes and discomfort.</p>
Outbreak of fire or explosion	<p>(1) Intentional activity, (2) accident, (3) negligence or (4) system error leads to exposure of flammable substance to ignition.</p> <p>Flammable substances include liquids, dust, gases and solids.</p> <p>Fires and explosions can cause serious burns and fatalities.</p>

Threats outside project scope (i.e., not typically part of local regulatory services)

Description of abstract hazard. le; something that can cause harm
Community problems
Addiction to / abuse of substance or activity
Incident of violent acts
Reduction in social cohesion
Consumer protection
Misuse of customer information
Dangerous substances
Human contact with harmful chemicals
Human contact with nuclear/radioactive substances
Disturbance to the UK
Disturbance through overpopulation
Disturbance through un-sustainability
Disturbance through overpopulation
Economic management
Collapse of national market or recession

Description of abstract hazard. le; something that can cause harm
Global environment
Global warming
Human diseases
Outbreak of tularaemia
Outbreak of plague
Outbreak of anthrax
Outbreak of tuberculosis (TB)
Outbreak of diphtheria
Outbreak of smallpox
Outbreak of HIV/AIDS
Outbreak of hepatitis A
Outbreak of hepatitis C
Outbreak of influenza
Outbreak of rubella
Outbreak of SARS
Outbreak of antimicrobial resistant pathogens

Description of abstract hazard. le; something that can cause harm
Natural disaster
Incident of storms and gales
Incident of tornados
Incident of hurricanes/cyclones
Incident of heavy snow
Incident of avalanche
Incident of landslide
Incident of earthquake
Incident of heat wave
Incident of drought
Incident of coastal flooding
Incident of inland flooding
Personal injury
Personal injury in the home
Personal injury caused by fire in the home
Personal injury involving transport

7.0 Appendix 2: Bibliography

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