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**LEGAL RESPONSIBILITY FOR  
FLOODING**

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## **Abstract**

This paper will deal with the traditional ways in which a party can be liable for causing flooding to another (the traditional approach). It will also address the legal basis for claims arising as a result of climate change (climate change litigation).

The section of the paper on the traditional approach will deal with the following issues:

- The principles behind establishment of liability for flooding.
- The historic development of the law relating to flooding.
- Responsibility for flooding arising from land drainage rights.
- Responsibility for flooding based on the principles in the mining cases.
- Responsibility for flooding arising from the culverting cases.
- Claims arising from negligence.
- When public bodies can become liable.
- Whether the Human Rights Act 1998 has any relevance to flooding claims.
- Practical suggestions for avoiding claims.

The section of the paper on climate change litigation will deal with the following issues:

- Why climate change litigation is likely to occur.
- Who are the potential claimants and potential defendants.
- The legal principles behind establishment of liability.
- The role that science will play in establishing liability.
- The potential defences to claims and the rebuttal of those defences.

The basic thrust of the paper will be to show how liability for flooding can arise. The principle behind the paper is that, once someone is aware of how he might become liable for causing flooding, he can take steps to avoid that liability. It will be a particular interest to any organisation that is involved in the management of water and flooding (who are at particular risk of claims) but will also be of interest to all land owners and corporate bodies generally.

## **ABOUT THE AUTHOR**

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# **LEGAL RESPONSIBILITY FOR FLOODING**

## **INTRODUCTION**

Flooding and the effects of flooding on homes and agricultural land is becoming an increasingly important issue which needs to be addressed. For example, around 5 million people, in 2 million properties, live in flood risk areas in England and Wales. Currently, flooding and flood management cost the UK around £2.2 billion each year. Other events which have been well-documented included the floods in Carlisle and Hexham, with the summer floods in Boscastle. As well as harm to life and sometimes irreparable damage to homes, disruption is caused to infrastructure, operation of facilities, communications and logistics.

Economic risk from flooding can vary but will be influenced by 3 factors; namely

- (a) Climate change;
- (b) The increase in the value of the properties and infrastructure ;
- (c) The amount of building in flood risk areas.

The recent Environment Agency Foresight Future Flooding Report<sup>1</sup> has recognised that, in addition to issues such as land use management, climate change is an important factor increasing flood risk. Climate change has a high impact in every scenario. Risks at the coast will be particularly affected due to sea level rises which could increase the risk of coastal flooding by 4-10 times. Precipitation will increase risks across the country by 2-4 times, although specific locations could experience changes outside this range.

As the economic costs caused by flooding increase, those bearing the costs, in particular the insurance industry, will inevitably seek to apportion the costs through the legal process. This paper examines the historic basis for such claims and proposes a possible new type of claim against those responsible for climate change.

## **BACKGROUND TO THE LAW**

Throughout time, and as a natural phenomenon, the periodic inundation of land has occurred in some form. Some flows are regular, resulting in the promotion of watercourses in a defined channel, whilst other flows have been more erratic and damaging following extreme weather conditions. As this is a naturally occurring event, some writers<sup>2</sup> argue that "flooding" is simply an anthropocentric concept and cannot exist without an effect on humans. As more land development has taken place on the natural floodplains, we have decided that certain inundations which affect property interests should be avoided or counteracted whenever feasible. This is an important concept which has underpinned the development of the law relating to flooding over the years, as discussed below.

In addition, it should be recognised that the harm and damage caused by flooding is not solely due to water quantity, but also water quality. It is important in discussing law relating to flooding and the remedies available to stress the distinction between water quality and quantity. For example, in the case of *Blue Circle Industries plc v Ministry of Defence*<sup>3</sup>, radioactive material was carried downstream to a neighbouring property following heavy rainfall. However, in this case, the damage caused by the flooding was insignificant compared to the damage caused by the content of the water. As a result a far more effective remedy could be found in legislation relating to damage by contamination, rather than those specifically relating to flood issues. This paper will not deal with liability arising from such water quality issues.

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<sup>1</sup> Office of Science and Technology (2004) Foresight Future Flooding Report

<sup>2</sup> such as Howarth, w., 2002, Flood Defence Law, Shaw and Sons Limited

<sup>3</sup> *Blue Circle Industries plc v Ministry of Defence* [1999] Ch. 289

## **THE HISTORIC DEVELOPMENT OF THE LAW RELATING TO FLOODING**

The common law has developed from the principle that flooding is natural and, as such, no-one can be blamed for causing it. However, gradually it has come to recognise that some flooding is caused by human beings who can be sued. It is often the case that it is the neighbouring land use rather than nature that it is the cause of the flooding. The effect of this has been to put increasing duties on individuals to take action to avoid flooding in the relevant circumstances and to develop a considerable body of case law in relation to flooding.

Traditionally, floodwater was regarded as a common enemy and everyone had the right to try to defend their property against flooding. As a result, any action to prevent flooding was taken to be a reasonable use of land even if where problems were caused on another person's land. It is of course obvious that if water is diverted from one person's land it will eventually find its way onto another's land. As a result, a delicate balance has had to be struck between illegitimate activities i.e. preventing flooding on one's own land and illegitimate activities which would mean re-directing floodwater onto land under another's ownership. In the 19<sup>th</sup> century, there was a considerable amount of litigation dealing with the establishment of the boundaries of this balance. At that time, a much larger degree of selfishness was permitted on behalf of the landowner when attempting to protect his land from flooding. However, as will be explained, this is no longer the case.

### **RIPARIAN RIGHTS**

This paper will not deal with claims arising from riparian rights which is a separate topic in itself. Riparian rights arise where there is a natural watercourse and water catchment areas, such as ponds. The owners of the land on either side of those watercourses have certain rights which can be enforced against other riparian owners and in certain circumstances, these rights could be said to be a form of the law on flooding. However, there are obviously many other situations where the cases relating to riparian rights cannot apply, such as when an artificial watercourse has been created, or where the transmission of water is over or under land between neighbours. This paper deals with those situations.

### **FLOODING CLAIMS IN THE LAW OF NUISANCE**

Most flooding claims will be brought in the law of nuisance. The term nuisance as used in law is not capable of a precise definition but moreover comprises of a variety of situations which are discussed below in greater detail. Briefly however, nuisances may be considered to be one of three situations: either acts or omissions causing damage or inconvenience to the public in the exercise of public rights, acts or omissions specifically designated by statute as nuisances, or finally acts or omissions connected with a user of land which cause damage or interference with another's use and enjoyment of their land or some right connected with that land. The general rules (such as those relating to standing, foreseeability of harm and causation) relating to nuisance will therefore apply to flooding cases based on nuisance.

It is important to bear in mind that the law of nuisance has been developed on a case by case basis. As a result it is not always possible to draw general conclusions from these cases. However, authors such as Howarth<sup>4</sup> have considered that the cases related to flooding which have been brought in nuisance can be divided into three main areas, mainly:

- (a) Land drainage rights;
- (b) The Mining cases;
- (c) The Culverting cases.

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<sup>4</sup> Howarth, W., 2002, Flood Defence Law, Shaw and Sons Limited

The basis of these cases are explained below but subsequent case law may have eroded some of these distinctions.

### **Land Drainage Rights**

It has long been established that the owner of property who is situated on a lower plain than its neighbour cannot bring a claim against its higher neighbour for any flooding caused by the natural occurrence of water running onto the lower land. It is also well established that the lower owner has no right to receive water from the higher owner. This reflects the points made above that the natural incidence of water on land is a common enemy.

The case of *Home Brewery Co v William Davies & Co (Leicester)*<sup>5</sup> examined this concept further and established whether the owner of lower land had a duty to receive water from the higher land. In this case, the Claimant owned a pub and drainage from the car park and patio area flowed onto the Defendant's land. The Defendant developed his land in such a way that it prevented this drainage and, as a result, transmitted water onto the Claimant's land. He was held liable for causing the additional flooding but not the deterioration of the Claimant's drainage system. In other words, he had no duty to receive the water but could not take steps which caused additional water to flow onto his neighbour's land.

Liability for flooding between neighbours can arise when the Defendant's use of the land is considered to be a "non natural use". In *Hurdman v North Eastern Railway Co*<sup>6</sup> the Defendant had piled rubble against the Claimant's wall. As a result rainwater percolated through to the Claimant's house. The Court held that the rubble was "artificial work" and that the rainwater would not have percolated "but for" the rubble. On that basis the claim succeeded.

Liability can also arise if water has accumulated on land and the owner of that land deliberately disperses it onto neighbouring land. In *Whalley v Lancashire and Yorkshire Railway Co*<sup>7</sup>, the rainwater had collected against the Defendant's embankment to the extent that the embankment was endangered. The Defendant cut trenches in the embankment to allow water through and caused flooding to the Claimant's land. The Court held that the Defendant had no right to protect its property from flooding by transferring the problem to the Claimant.

The above cases all illustrate that liability will only arise from the drainage between adjacent land if the Defendant takes action which is non-natural or deliberate which causes water to flow onto the neighbour's land.

### **The Mining Cases**

Historically many of the cases relating to flooding in nuisance have been in the context of mining operations, for example where one mine worker has carried out works which have allowed water to enter into a lower mine. Most of these cases were decided in the 19<sup>th</sup> century when it was generally accepted that the exploitation of coal and other minerals were of vital importance for the development of key industries. Such concerns may well have had some influence over the judges at the time.

It is not clear whether similar cases would be decided following the general principles arising from the nuisance cases (particularly *Leakey* as discussed below). Some commentators consider that there is a special class of nuisance which relates specifically to mining cases.

One leading decision concerning the flooding of mines is *Smith v Kendrick*.<sup>8</sup> In that case the Defendant removed a horizontal seam of coal from its colliery which subsequently led to the

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<sup>5</sup> *Home Brewery Co v William Davies & Co (Leicester)* [1987] QB 339

<sup>6</sup> *Hurdman v North Eastern Railway Co* [1878] 3 CPD 168

<sup>7</sup> *Whalley v Lancashire and Yorkshire Railway Co* (1884) 13 QBD 131

<sup>8</sup> *Smith v Kendrick* (1849) 7 CB 515

flooding of the Claimant's mine. In that case it was held that, because the removal of the seam of coal was a reasonable use of land, the Defendant could not be liable for the flooding. The broad principle in that case was that there was no common law duty upon a miner to prevent water from flowing into a neighbour's mine and it was the responsibility of every mine owner to take sufficient precautions to prevent any flooding of his own mine.

In a number of instances, the operators of mines have been found liable for increasing the quantity of water flowing into neighbouring mines by these activities. An example of this is *Baird v Williamson*<sup>9</sup>. In this case both the Defendant and the Claimant owned mines. The Defendant caused flooding to the Claimant's mine by raising the level of water in his own mine by pumping water so that water flowed into the Defendant's mine through a drainage channel. The Court held that the Defendant was liable as he was actively directing water into the adjoining mine.

The most celebrated case involving a mine is *Rylands v Fletcher*<sup>10</sup>. The facts of this case are well-known. However, by way of reminder, the Defendants constructed a reservoir on their land. In constructing the reservoir, they were unaware that there were disused mine shafts underneath. Therefore, when the work was completed and the reservoir was filled, it burst through the shafts and into the Claimant's mine. The Court of Exchequer Chamber founded the principle that: "*the person who for his own purposes brings on his land and collects and keeps there anything likely to do mischief if it escapes must keep it at his peril and if he does not do so he is prima facie answerable for all the damage which is a natural consequence of the escape.*" Although it has generally been thought that this case establishes a strict liability on those who use their land for a "non natural" use, this has been considerably watered down by the case of *Cambridge Water v Eastern Counties Leather*. Here it was suggested that the rule of *Rylands v Fletcher* should not be regarded as creating any strict liability than otherwise provided for in the law of nuisance. However the rule established by the case is generally still regarded as a cause of action in itself.

### **The Culverting Cases**

The culverting cases tend to be more recent than the mining cases. They arise where culverting of a watercourse has taken place and it is alleged that the culvert has consequently caused flooding. The general rule is that anyone who interferes with the course of a stream is liable if the works which they carry out are not adequate to carry off the water that travels down the new works. This is the case even if any flooding is a result of extraordinary rainfall.

Case law also shows that it is not only necessary to ensure that any culvert is designed and constructed correctly but also that it is continuously maintained to ensure that it operates effectively. Furthermore, it is also possible to be held liable in nuisance even if one did not construct the culvert but simply owned land on which a culvert has been constructed. In that case it is necessary to consider whether the Defendant has continued or adopted the nuisance.

The most recent case, in 2001, concerning culverting is *Bybrook Barn Garden Centre v Kent County Council*<sup>11</sup>. In this case the Defendant highway authority maintained a conduit which had been put in place some years previously to take the natural flow of water from a ditch passing under a road. However, subsequently because of the development of a business park in the vicinity, the amount of water increased and the pipe became inadequate for the increased levels. The question which arose was whether there could be an actionable nuisance which was caused by factors outside the Defendant's control. The Court of Appeal followed the case of *Leakey* (see below) and held the highway authority liable. It said that once the council was aware that the pipe was not adequate to support the amount of water, it was under a duty to do what was

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<sup>9</sup> *Baird v Williamson* (1863) 15 CBNS 376

<sup>10</sup> *Rylands v Fletcher* (1866) LR 1 Exch 265, affirmed (1868) Law Rep 3 HL

<sup>11</sup> *Bybrook Barn Garden Centre v Kent County Council* [2001] Env LR 543

reasonable to prevent any flooding. This shows a broad based policy decision consistent with a trend towards increasing the scope for landowners to be held liable for unreasonable land use.

The fundamental principles in relation to liability for culverts are established in *Greenock Corporation v Caledonian Railway Co*<sup>12</sup>. The Appellant constructed a paddling pool in the bed of a stream which altered the course of the stream. As a result of extraordinarily rainfall the stream overflowed at the pool and flooded the property of the Respondent. The Court held that the duty of anyone who interferes with the course of a stream is to ensure that any works which are substituted for the natural channel are adequate to carry off the water even if the water is the result of extraordinary rainfall. The Appellant also attempted to argue that the extraordinary rainfall was an Act of God. However, the Court explained that such rainfall could be expected in Scotland!

In *Provender Millers (Winchester) Limited v Southampton County Council*<sup>13</sup> the Council successfully relied upon the defence that it was acting with statutory authority. It had inserted a culvert in a stream to give extra support to the highway. As a result, the natural flow of a river was reduced. The Claimant was a mill owner who suffered loss as a result of this reduction in the water flow. However the Council was not found liable as it was not possible to perform their statutory functions in any other way. Although the case dealt with deficiency of water it is thought that the defence would equally be available in cases of increase in water or flooding.

There is also a duty on those who are responsible for culverts to maintain them. In *Pemberton v Bright*<sup>14</sup> the County Council had constructed a culvert under a road between the properties of the Claimant and the Defendant. The culvert had been constructed without a grid and from time to time an employee of the Council cleared the mouth of the culvert. After some heavy rainfall the Claimant's land was flooded because the culvert became blocked with branches and other debris. The Court held that the Council and the owner of the land were both liable on the basis that they had continued the nuisance.

Liability for continuing nuisances is also illustrated in the case of *Sedleigh-Denfield v O'Callaghan*<sup>15</sup>. In this case, a culvert had been constructed on the Respondent's land by a third party. A grating was placed on top of the culvert which, during a heavy rainstorm became choked with leaves and flooded the Appellant's land. The Respondents were held liable even though they had not constructed the culvert but because they had adopted the nuisance.

### **The Current Direction of Flooding Cases in Nuisance**

Whilst courts will balance the uses of land, there is also a need to show causation and reasonable foreseeability. It is important to stress that flooding itself will not alone establish liability. For example, the case of *Leakey v The National Trust*<sup>16</sup> has indicated a fundamental shift in the cases relating to nuisance. The National Trust owned a conical hill adjacent to residential properties. Following the hot summer of 1976, one of the occupiers of the houses noticed that there was a large crack in the hill which looked likely to cause a land slip. She notified the National Trust who indicated that they had no liability to do anything about it as it was a naturally occurring problem. Consequently a land slip occurred. The Court of Appeal held that the National Trust was liable on the basis that there was a duty on a landowner who knew or ought to have known of, in this case, a risk of encroachment onto another's land, to do what was reasonable in all the circumstances to prevent or minimise the risk of the known or foreseeable damage or injury to that other person. That principle has been applied and modified in many of the subsequent cases on nuisance (and not as in flooding cases) and marks a

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<sup>12</sup> *Greenock Corporation v Caledonian Railway Co* [1917] AC 556

<sup>13</sup> *Provender Millers (Winchester) Limited v Southampton County Council* [1940] Ch 131

<sup>14</sup> *Pemberton v Bright* [1960] 1 All ER

<sup>15</sup> *Sedleigh-Denfield v O'Callaghan* [1940] AC 880

<sup>16</sup> *Leakey v The National Trust* [1980] 1 All ER 17

fundamental shift away from the 19<sup>th</sup> century cases which place a much lesser duty on a landowner.

An illustration of the Court's current position on flooding claims is *John Green v Lord Somerleyton*<sup>17</sup>. The Court of Appeal held that the *Leakey* principles applied to naturally flowing water and that the Defendant would be liable if flooding was caused by their failure to do what was reasonable in the circumstances. As such, the scope of the duty on every landowner is to consider:

- (a) The extent of the risk – whether it is reasonably foreseeable that damage will be caused;
- (b) The foreseeable extent of any damage;
- (c) Whether it is practicable to prevent or minimise any damage;
- (d) If it is practicable, the extent of the works required;
- (e) The financial resources of the parties.

If, having weighed up the factors, it is reasonable to take steps to prevent damage by flooding, then the landowner should do so.

### **CLAIMS ARISING FROM NEGLIGENCE**

There are relatively few cases in relation to flooding in which negligence has been argued. However, it is clear from the case law that the nuisance cases are very akin to negligence. In fact in *Leakey*, the National Trust argued that negligence had not been pleaded and in effect the case was one in negligence. The Court of Appeal rejected that argument saying that the case could correctly be framed in nuisance.

However one case in relation to flooding which was found in negligence was *Adcock and Others v Norfolk Line Limited and Others*<sup>18</sup>. In this case, damage was caused by an exceptionally high tide which flooded an area of low lying land occupied by 74 houses and 20 business premises which caused £1 million of damage. The flooding was due to the breaching of a temporary sand bag wall that had been placed on a wall to maintain the sea defences until permanent works were completed. Liability was found against all four Defendants in separate proportions for failing to do what was deemed reasonable in the circumstances. These were the water authority (5%) for not specifying the adequate height of the wall, the main contractors (25%) and the sub-contractors (35%) because they had used the incorrect sand bags and had failed to construct the wall to the adequate height.

In the above case, a flooding event was in effect imminent and therefore the standard of what was reasonable in relation to flood prevention was higher. The standard will obviously vary depending on the situation. Therefore, if a sand bag wall needs to be built as an emergency operation the standards required would not be so exacting.

### **WHEN PUBLIC BODIES CAN BECOME LIABLE**

All of the points made above have worked on the presumption that the neighbouring landowners are private individuals. However, in reality, this is not always the case with individuals seeking to recover damages from flooding from a public or statutory body. It is clearly established that, in the absence of a statutory authority, a public body is capable of being liable in the same way as a private person. However, public bodies do hold some immunity and the extent of this

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<sup>17</sup> *John Green v Lord Somerleyton* [2003] EWCA Civ 198

<sup>18</sup> *Adcock and Others v Norfolk Line Limited and Others* unreported, Court of Appeal (Civil Division) 28 May 1993

immunity has not yet been fully resolved. The cases have evolved in a piecemeal fashion and there is no definitive test applicable to all situations. Some general principles can be taken from the case law so that statutory bodies are less likely to be liable for example where:

- (a) Liability is excluded by the statute under which the body exercises its functions;
- (b) The body is bound to exercise a statutory duty rather than a permissive statutory power;
- (c) The body does not exercise sufficient control over the activities alleged to give rise to the problems;
- (d) The imposition of liability would have adverse economic consequences in diverting resources away from more pressing public needs.

However, on the other hand, statutory bodies are more likely to be civilly liable where:

- (a) The body has acted outside its statutory powers;
- (b) The relevant statute provides no alternative remedy;
- (c) Where there has been an infringement of human rights.

#### **DOES THE HUMAN RIGHTS ACT 1998 HAS ANY RELEVANCE TO FLOODING CLAIMS?**

Following the Court of Appeal decision in *Marcic v Thames Water Utilities Limited*<sup>19</sup> which involved flooding by sewage, there was some debate about whether a claim could be brought for flooding under the Human Rights Act 1998. The writer was doubtful that this would offer a separate cause of action because public bodies' duties in relation to flooding are framed on powers and not duties. However, the House of Lords emphasised that any claims against statutory undertakers should be brought under the relevant statute and not under the Human Rights Act. As such, for the time being, this cause of action appears to be closed.

#### **CLIMATE CHANGE LITIGATION – A NEW POSSIBILITY**

On 21 July 2004, a claim<sup>20</sup> was issued in Manhattan Federal District Court (the Manhattan Claim) which was thought to start a new wave of mainstream climate change litigation. There has been other climate change litigation but not a private claim such as this.

The Plaintiffs were the City of New York, 8 US States and NGOs. The Defendants were the major US power corporations, namely American Electric Power Company, Southern Company, Tennessee Valley Authority, Xcel Energy Inc and Cinergy Corporation.

The Plaintiffs sought an order from the court to force the Defendants to cap and reduce their CO<sub>2</sub> emissions but, interestingly, did not seek any damages for historic losses. The Plaintiffs claimed that emissions of CO<sub>2</sub> could be reduced without increasing costs by changing fuels, improving efficiency, increasing generation from zero or low-carbon energy sources (such as wind, solar or gasified coal with emission capture), co-firing wood or other bio-massing coal plants, employing demand-side management techniques and altering the despatch order of their plants.

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<sup>19</sup> *Marcic v Thames Water Utilities Limited* [2004] 2 AC 42

<sup>20</sup> *State of Connecticut et al v American Electric Power Company Inc et al* 04 Civ 5669 (2005)

The Plaintiffs claimed that the Defendants, by failing to cap and reduce their CO<sub>2</sub> emissions, were contributing to climate change which had the effect of producing various effects including more droughts and floods resulting in property damage and risk to human safety.

The claim was struck out in September 2005. The Judge ruled that the Plaintiffs' claim raised non-justifiable political questions and should be dismissed. It is interesting to note that the legal questions were not addressed and the Court dismissed the case on the above basis only. This raises the question of whether the claim framed in a different way would succeed and whether a claim could be brought in the UK courts.

### **Is climate change litigation possible in the UK?**

The Manhattan claim was against companies who were burning fossil fuels in the course of providing a product (i.e. electricity). Such companies are an obvious target for climate change litigation as they are actively emitting CO<sub>2</sub> into the atmosphere. However, there are other industries that could be subject to a claim brought as a result of climate change. These include companies which inevitably produce fossil fuels and put them into the market for burning (for example, oil companies), air lines who burn fossil fuels in order to provide their service and those companies which make products which burn fossil fuels (for example, motor manufacturers).

The Manhattan claim was brought in public nuisance but, arguably, there is a simple legal route which, in theory, could be used in the UK to found a claim against the above types of company. This claim would be based on the long established principles of negligence in *Donoghue v Stevenson*<sup>21</sup>. Before dismissing this as a fanciful motion on the basis that the principle could not be expanded to deal with issues such as climate change it is worth considering the following quotation from Clerk and Lindsell on Torts:

*"As new interests in matters such as privacy or pollution are recognised, and new forms of interference emerge from the complexity and interdependence of modern society, the principles of tort can be used to provide an appropriate response."*<sup>22</sup>

The first issue that the Claimant would need to prove was that the Defendant has, in effect, been negligent in putting a product on the market which burns fossil fuels or, as part of its operation, burned fossil fuels itself. Both of these activities contribute with a statistical certainty to an increase in greenhouse gases in the atmosphere. It would also now be very difficult for the Defendant to argue that it did not know that the effect of emitting those greenhouse gases into the atmosphere caused global warming to a certain extent. The "Third Assessment Report" of the authoritative UN Inter-governmental Panel on Climate Change (IPCC) concluded in 2001 that "*most of the observed warming over the last 50 years is likely to have been due to the increase in greenhouse gas concentrations.*" "Likely" is an IPCC term of art meaning that there is a confidence level of 66 to 90%. This would be enough on a civil standard of proof to establish that the global warming over the last 50 years has been largely man-made.

The usual defences to (in effect) product liability claims of this kind such as; the product satisfies a general demand; is as safe as it can be made; and its danger is not out of all proportion to its social benefits, can, in theory, be overcome. However, a bigger hurdle for the Claimant would be to deal with a defence of statutory authority raised by the Defendant which could be based on evidence of reasonableness. In the UK, the Defendant would rely upon the existing and any future statutory regulation of CO<sub>2</sub> to establish this defence.

The Claimant still has to overcome the issue of causation, both on a factual and a legal basis which may appear an insurmountable hurdle. However, for the reasons set out below, although

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<sup>21</sup> *Donoghue v Stevenson* [1932] A.C. 562

<sup>22</sup> Clerk, J.F., Lindsell W.H., (2000) Clerk and Lindsell on Torts, 18<sup>th</sup> Edition, paragraph 1-02

the science may not be developed yet, it might well be in another 5-10 years and the legal principles are already in place.

For instance, Myles Allen of Oxford University's Department of Physics is one who is working on the establishment of a link between increased levels of greenhouse gases in the atmosphere and certain specific events. In other words he is seeking to prove, for example, that the incidents of excess rainfall in a specific place have increased by a certain factor as a result of global warming. In order to do this he has suggested a statistical method known as Fraction Attributable Risk. As this type of work continues it becomes more likely that it will be possible to establish factual causation to a civil standard of proof linking specified effects of global warming to the emissions of greenhouse gases.

Even if the factual issue of causation referred to above is satisfied, the Defendant will claim that it is one of many thousands of organisations and indeed individuals that are emitting greenhouse gases into the atmosphere and cannot be said on the classic "but for" test to be held responsible for the damage. However, the case of *Fairchild v Glenhaven Funeral Services Limited*<sup>23</sup> shows that the courts are willing to adapt the legal principles of causation to suit different situations. In *Fairchild* the damage was either caused by Defendant A or Defendant B but not both and it could not be proved which Defendant was in fact responsible. The House of Lords held that, despite this, as both Defendants had been negligent, they should both be held liable. Therefore, as a result, one of the Defendants was held liable for damage which it did not cause. Although this seems to offend the normal legal principles of causation, the House of Lords emphasised that it would offend against notions of justice to allow two or more negligent Defendants to escape liability when the only issue was that it was not possible to prove which of the two actually caused the damage.

*Fairchild* shows that there is no absolute principle which would prevent a court from establishing causation on a legal basis because there are a multitude of Defendants. Indeed, in a claim for climate change litigation it can be said with certainty that each Defendant has contributed to global warming to a certain degree. Further, leaving aside individuals who burn fossil fuels as a result of running their cars or other domestic activities, there are not as many Defendants as one might consider. It has been estimated that 122 corporations account for 80% of all CO<sub>2</sub> emissions worldwide and a recent study has concluded that one company is responsible for 5% of all carbon dioxide emissions above pre-industrial level<sup>24</sup>. These studies, together with the work of people like Myles Allen, mean that it might well soon be possible to show the percentage contribution of a particular Defendant not only to global warming generally but also to a particular event.

## CONCLUSION

- 1 The laws of flooding have been developed over hundreds of years to deal with changing circumstances engineered by mankind. The law is not straightforward but liability can be established for causing flooding.
- 2 As the costs incurred in dealing with flooding increase, people will inevitably look at the established causes of action and seek to develop new ones.
- 3 This litigation is set to increase as damage from flooding is more closely linked to climate change. If the research discussed above can eventually accurately attribute responsibility of an individual or corporate body to an event, then litigation such as that discussed above is a very real possibility.

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<sup>23</sup> *Fairchild v Glenhaven Funeral Services Limited* [2003] 1 AC 32

<sup>24</sup> Corpwatch October 2001

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