

Toxic torts: arsenic poisoning in Bangladesh and the legal geographies of responsibility

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Abstract

Tubewells have been so popular in rural Bangladesh that about 12 million have been installed, yielding water that is convenient, free, and low in bacteria. But every fourth well is polluted with arsenic, with the result that millions of people are exposed to a severe environmental hazard. We explore this crisis from the viewpoint of legal geographies. The case of *Sutradhar v NERC* is taken as an exemplar of a debate about 'proximity' between scientific consultants and aid donors on the one hand, and their clients in poor countries on the other. In short, the article is about the desirability of bringing responsibility into line with supposed generosity.

key words environmental health, arsenic poisoning, water, Bangladesh, legal geography, proximity, toxic torts

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Introduction

In 2002, the United Nations Committee on Economic, Social and Cultural Rights recognized access to water as an independent human right: 'the right to water clearly falls within the category of guarantees essential for securing an adequate standard of living, particularly since it is one of the most fundamental conditions for survival' (WHO 2003). Among the Least Developed Countries (LDCs), Bangladesh has taken this right most seriously. Approximately 97 per cent of its rural people now have access to bacteriologically clean water (MLG 2003), as a result of the installation of about 12 million tubewells.¹ These supply about 80 per cent of national drinking water demand (Ahmed 2002).² We can attribute at least part of the significant drop in infant mortality, from 151 to 83 per thousand 1960-96, and in under-five mortality from 247 to 112 per thousand, to this ready availability of clean water (WHO 2000).³ Until the middle of the 1990s this was the only element of national water policy that had widespread support and that did not present major technical difficulties (Black 1990). The other strands, including the Flood Action Plan, sanitation, water pollution, irrigation, drainage, cyclone shelters, and fisheries, were all more or less problematic and their policies widely criticized (Wood 1999).⁴

The expansion of tubewells came with the financial help of UNICEF after the independence of Bangladesh in 1971. At first sight, they seem to be the perfect development tool – a cheap and effective technology that has been received enthusiastically by the users. Having a tubewell was a matter of convenience but also a status symbol and, as a result, people have been willing to invest their own money in private installations (Black 1990). There are limitless supplies of the raw material underground, a Promethean bounty waiting to be released. However, the result of this reliance upon tubewells – a cruel irony this – has been an environmental health disaster of unprecedented proportions, many times worse than Chernobyl and Bhopal combined (Smith *et al.* 2000). About a third of tubewells produce seriously contaminated water, with a broad swathe across the centre and south of the country being particularly at risk (Atkins *et al.* 2006a).⁵ One estimate is that millions of people will die or suffer from the very serious consequences of consuming the arsenic that occurs naturally in aquifers in

the Holocene sediments of the Bengal delta (Yu *et al.* 2003).⁶ Arsenic is a colourless, odourless and tasteless poison and, to give an idea of its miniscule presence, it occurs at the equivalent of about one-third of a teaspoon-full dissolved in the water of an Olympic-sized swimming pool (Meharg 2004).

One exemplary case of is that of Binod Sutradhar, a carpenter from Ramrail in Brahmanbaria district. He suffers from painful keratoses, hard lumps or papules, on his hands and feet, which he claims are the result of consuming water contaminated with minute traces of arsenic.⁷ In 2001, along with a large group of his fellow sufferers, he decided to take on the might of the western science-based aid complex, in the surrogate form of the Natural Environment Research Council (NERC). They are the parent body of the British Geological Survey (BGS), who in the early 1990s undertook a survey of groundwater quality in his region (Davies and Exley 1992), on behalf of the Overseas Development Administration (ODA). This failed to check for arsenic and, because of this oversight, Mr Sutradhar accuses the NERC of negligence. Other possible defendants might have been the Government of Bangladesh (GoB), or the United Nations Children's Fund (UNICEF), both of which have encouraged the sinking of tubewells, but the NERC was chosen instead in the ironic context of postcolonial environmental justice, with the litigation taking place under the jurisdiction of the courts of the former imperial power. The case has so far progressed from a hearing in the High Court in London to the Court of Appeal and in 2006 it will go to the House of Lords.⁸ The legal argument to date has only been about whether a trial should take place and no detailed evidence has yet been heard.

Mr Sutradhar is alleging a 'tort', legally defined as a damage caused by someone else's action or inaction. The point of law at stake is the controversial notion of 'proximity': the nature of the relationship between the plaintiff and defendant in terms of geography and 'duty of care'. The NERC/BGS is alleged to be liable because of its responsibility, through its water monitoring activities, to the water consumers who would have benefited from a fuller analysis of the samples they collected. This is a developing area of environmental law that has major implications for scientific consultancy and the application of expert knowledge in the aid industry, and it raises the issue of whether western academics and researchers have a legal responsibility to their clients in the LDCs. If we were writing lurid tabloid headlines, we might call it the 'Revenge of the Third

World': the frankly extraordinary prospect of ordinary people, who have suffered the negative environmental consequences of failed development projects, claiming damages in courts around the world.

A more measured legal appraisal is that proximity, in its present definition at least, will be difficult to prove in the case of the mass arsenic poisoning in Bangladesh and that the NERC is very unlikely to be found liable for any failure in their duty of care (Pugh and Criddle 2004). But the importance of *Sutradhar v NERC* may be more symbolic than having a specific outcome for the Bangladeshi litigants. If the case ever comes to trial it could act as a trojan horse in terms of the legal arguments that may be used in future, stronger cases of negligence in environmental policy or practice. The potential significance, in terms of the emergence of a new breed of transboundary environmental actions with a global face, has been revealed recently in the journal *Nature*, where it has been speculated by Allen and Lord (2004) that evidence linking global warming to the release of greenhouse gases is now so strong that at some point it may be possible to mount a legal argument apportioning blame for deleterious consequences. The example they give is the enhanced death rates in parts of western Europe due to increases in temperatures of up to 10° C higher than normal in the summer of 2003.

The present paper addresses the principal irony that well-intentioned actions to provide sustainable solutions to environmental problems occasionally go wrong with disastrous consequences. In this case the actions were international, and *Sutradhar v NERC* seeks, in the globalized context of the aid industry, to bring responsibility in line with supposed generosity.⁹ We start with a consideration of the tortious spaces of the arsenic crisis in Bangladesh. This is followed by a consideration of fault and liability through a discussion of the case that has been brought in the British courts. Finally, we conclude with a discussion of the concept of proximity.

What space for environmental justice?

Nick Blomley and David Delaney have pioneered legal geographies and enhanced our understanding of how courts construct and interpret place and space (Blomley 1994, Delaney *et al.* 2001). But, as Delaney (2001, 487-88) remarks, nature and the environment have been 'virtually neglected' in this literature. We foresee in the present paper the emergence of new legal geographies of socio-natures. These are the means by

which nature is penetrated and regulated through the structures of the law. We reject, for instance, dualisms of culture and nature and regard the generation of poisoned water from a latent source as neither a wholly technological, nor as a solely geological phenomenon. It is a novel hazard that has few parallels. No profit was involved and no manufacture, and there was no accidental release of by-products, so comparison with standard chemical pollution incidents is fruitless. The sole victims are humans, so there can be no charge of ecocide. The international dimension involves no dispute about contested raw materials or waste products. Rather, this is an environmental health crisis that could be viewed as a tragic accident that was not foreseeable, or as an act of scientific incompetence and gross negligence that requires redress through the mechanisms of compensation and deterrence.

Various lines of redress for damage are available in the international law protecting public environmental health. The first is application of the criminal law, where a state body may prosecute polluters for infringements of official regulations (Koenig and Rustad 2004). This is most appropriate for companies producing hazardous waste and is not relevant for our discussion. Second, there is the arena of public international law, in which obligations are adduced for both state and non-state actors. The International Law Commission of the United Nations is seeking to clarify and codify these, for instance with respect to transboundary environmental damage, and impacts upon the global commons. Among geographers, Mason (1999, 2001, and 2005) has probably contributed most in this area to understandings of the spatialities of transnational environmental harm. He adopts a stance of critical pragmatism and shows how a combination of treaty obligations, the 'soft law' of declarations and resolutions (Paradell-Trius 2000), and court rulings, has contributed to a redistribution of authority away from the nation state. International bodies, corporations, NGOs and other non-state actors are now increasingly empowered to make spaces of environmental justice. Mason (2001) interrogates Habermas's principle of communicative discourse and finds a non-territorial version of democratic accountability. This is underpinned in the literature of environmental pragmatism by parallel moral spaces of transnational obligation, although as yet the response of the international community has been slow, no doubt because proven and legally-enforceable obligations can be expensive.

Third, private international environmental law is a field that has grown in parallel with the global green agenda in the last twenty years, but cross-boundary toxic tort cases between private parties have so far had limited exposure. The International Court of Justice has taken on environmental cases since 1993 but only at the state-to-state level (Alkoby, 2003; Fitzmaurice, 2004). The potentially promising idea of an International Environmental Court for non-state disputes has not progressed beyond the stage of speculation (Rest 1998), and the bilateral and multilateral agreements within which cross-boundary environmental torts can be litigated remain inadequate for private cases and institutionally thin (Rao 2004).¹⁰ Plaintiffs thus have to fall back on testing their entitlement to environmental justice by suing for compensation in their own courts under domestic common law or in foreign jurisdictions, as with *Sutradhar v NERC*.

The present paper investigates private tort litigation.¹¹ In tort lawsuits, injured parties may sue to recover their position before the tort, through various forms of corrective justice such as monetary compensation or remediation. In the United States, the father of tort theory in the late nineteenth was Oliver Wendell Holmes, and he distinguished three types of legal redress (Rosenberg 1995). First was the application of the principle of ‘strict liability’, where the perpetrator of unintentional damage may be held to account, for instance, for the use of an inherently dangerous or unpredictable technology, even without the need to prove fault.¹² Second, negligence may be judged tortious, as may the third, and obvious category, of intentional wrongs. In Britain, the law of torts, a branch of the common law, has been gradually accumulating over the centuries, and it is still ‘an object in motion’ (Xue 2003, 270), with scope for further development. For instance, there has been a rapid acceleration of compensation claims in recent years, following the example of personal injury litigation in the U.S.A... As the name suggests, a ‘toxic tort’ is caused by a noxious substance that damages health (Pugh and Day 1995), a recent example, for instance, being mesothelioma, which is caused by exposure to asbestos (White 2004).

As yet, geographers have tended to approach torts from the points of view of environmental sustainability or the liability regimes of transnational corporations in global economic governance. Mason (2001, 421) reminds us that corporate capitals are well positioned in their operating strategies ‘to displace liability claims on to less stringent judicial systems (notably in the global South) where the damage occurred’ and away from

the courts in Europe and North America, where scrutiny is more rigorous. The present paper addresses just such an attempt to shift the locus of liability via arguments about the relationship between the parties in a court case; but the case is being heard in the British courts and this is an important landmark in opening out the question of jurisdiction of transboundary environmental issues. Our emphasis upon civil liability highlights an approach that, according to Mason (2001, 422), is gradually ‘accumulating legal authority’.

The globalization of notions of justice is a relatively recent phenomenon. Silbey (2001) comments that televised images of the American legal process, usually criminal court cases, have helped to spread such ideas, in the sense that they are products ‘sold’ in a postmodern, postcolonial setting of entertainment in which the signs are consumed, signifying hypothetical rights of redress. But for her this does not indicate any immediate likelihood of progress and in fact she suggests that currently the phrase ‘global justice’ is an oxymoron. Although expectations have been created through the Universal Declaration of Human Rights (1948), there are many countries where the practical socio-legal empowerment of poor people for such basic needs as clean water remains distant.

The social movement literature on LDCs indicates that, although civil society remains weak in many of these countries, there are increasing numbers of NGOs pursuing legal channels for the resolution of environmental issues, thus producing democratic spaces that in the global North would more often be associated with formal state institutions (Stiles 2002). Morgan (2005), for instance, has found widespread evidence of social protest on water issues. In Bangladesh there is a rich variety of such movements with a legal or environmental emphasis, and their reach is gradually taking on an international dimension through links with overseas partners. In the present case study we will encounter Brotee, an indigenous NGO working on water since 1997, and the Bangladesh Environmental Lawyers Association (BELA).¹³ Both are active in a range of environmental issues and for the arsenic case they have been assisted by the London-based Bangladesh International Action Network and by Leigh Day & Co, one of a new breed of environmental law companies that are actively involved in LDCs. There is also in Dhaka the NGOs’ Arsenic and Information Support Unit, a joint venture between WaterAid Bangladesh and the NGO Forum for Drinking Water Supply and Sanitation, and many other organizations working on practical help for the victims of arsenic poisoning.

The spacings of torts are complex. Although the damage is time-space specific, the causal chain may be lengthy, in the case of *Sutradhar v NERC* allegedly stretching from Bangladesh to the BGS headquarters in Nottinghamshire, with intermediation from the GoB, the British Government's ODA, and the NERC. This particular strand is only one in a web of funding bodies, consultants and engineers who were involved with the vast tubewell programme in Bangladesh. 'Proximity' in this case is best interpreted as interconnexions in a global network of information and influence, supporting Gregory's (2004, 249) claim that 'distance is never an absolute, fixed and frozen, and within the colonial present, like the colonial past, the power to transform distance...is typically arrogated by metropolitan cultures'.

What then of the intersecting skeins of responsibility that constitute the globalised system of aid and consultancy? They are so complex that Beck (1999, 55) has called the difficulty of attributing blame a 'travesty of the hazard technocracy' because 'if it is necessary to name one and only one actor, in the overwhelming majority of cases no actor can be named'. But each transaction, whether economic or scientific, is *potentially* damaging and therefore carries with it a latent liability, and the law of torts may therefore provide an answer for Beck's problem. If it ever breaks through into the mainstream of quotidian international relations, it will fundamentally change the relationship between patrons and clients from one of *caveat emptor* (consumer beware) to *caveat venditor* (provider beware). Few outside the realms of socio-legal scholarship have thought of the world as legally inscribed in this way but, in one sense, we are identifying a future action-oriented justice that might put a measure of power into the hands of the wronged. Torts also, because compensation is involved, allocate a price to damage and therefore create a market that values environmental harm. Some argue that torts are preferable to the regulatory regime of international institutions in that they address harm in place-based contexts because they function at the human scale of the individual and the community (Anderson 2002).

The body-environment nexus

Kroll-Smith and Westervelt (2004) cite American cases that illustrate the ready permeability of the boundary between bodies and nature. They discuss mainly pollution by dangerous manufactured chemicals, but we might add chemicals used in food

manufacture, chemicals such as fluoride that have been deliberately introduced to the human environment with a view to some beneficial effect, and natural toxins that adversely affect human health (Thornton 2000). Arsenic is an example of the last category. It is one of the commonest elements, being widely dispersed in low concentrations in the environment, and traces are therefore present in our normal diet. It only becomes dangerous in food and water above critical concentrations, which for water was recently reconfirmed by the World Health Organization as ten parts per billion (WHO 2004). A shocking aspect of the arsenic crisis in Bangladesh is that it affects somewhere between 28 and 57 million people, many of whom it is thought will develop internal cancers as a result of years of consuming contaminated tubewell water (BGS and DPHE 2001).¹⁴ This is ‘the largest mass poisoning of a population in history’ (Smith *et al.* 2000, 1093).

A problem with such superlatives of disaster is the degree to which expert advice about body-environment links is admissible in court (Browne *et al.* 1998). The notorious United States Supreme Court judgement of *Daubert v Merrell Dow Pharmaceuticals Inc* (1993) added in this respect a filter that has significantly influenced the law of torts in that country, with implications further afield (Edmond and Mercer 2004). The justices required that judges in future must screen the quality of experts called by both sides, with a view to admitting only reliable testimony. This sounds reasonable, especially when one considers that many of the so-called ‘experts’ called to the witness stand have in the past often been poorly qualified to give an opinion (Huber 1991), but the outcome in practice has been to disadvantage plaintiffs. Where the science is indeterminate, controversial, unsettled, or causal links are difficult to establish, it is not easy to persuade judges to take a case seriously, for instance in complex diseases that have a long period of latency. Arsenicosis is one such disease, and we might add that the problems of plaintiffs are multiplied if they are poor, non-literate and perhaps from a country lacking a depth of experience in environmental law (Kanner 2004). All of these disadvantages apply to the Bangladeshi arsenic sufferers, who are nearly all poor rural people. Due to inadequate nutrition, and a high consumption of water in the tropical heat, their bodies are more open than most to the insidious poisoning of arsenic (Smith *et al.* 2000), yet their access to environmental justice is limited, both in Bangladesh and in foreign courts where *Daubert*-like attitudes prevail.

Environmental legal strategies

Strategic thinking has become an important part of environmental citizenship in the global North. New social movements and environmental lobby groups have achieved much in the last twenty years by protests that have been focussed, targeted and coordinated. Toffolon-Weiss and Roberts (2004) discuss legal strategising with regard to environmental litigation. Suing for damage from a toxic tort is not, in their experience, sufficient. The evidence of cases in Louisiana indicates that four ingredients are required for success. First, framing a message is important, with respect to the particular grievance and the goals for action. Second, alignment with other interest groups is usually of mutual benefit, especially where the partner is a national or international organization, such as Greenpeace or Friends of the Earth, with experience and resources. Third, a legal strategy is essential, in order to decide whom to sue and in which court. Both of these have been difficult to decide in the case of arsenic. Should the GoB be held responsible, or its western expert advisers, or the funders of the tubewell technology? Should the case be brought in Bangladesh or overseas in a court with greater perceived sympathy for environmental justice and the power to impose punitive damages? Fourth, a protest strategy is indispensable. Toffolon-Weiss and Roberts found that high profile media campaigns and disruptive civil disobedience are particularly effective in getting the attention of the courts and increasing the likelihood of a satisfactory outcome. Such performative citizenship is part of what may be termed a marketing campaign for environmental issues. The ability to plan, coordinate and execute such strategies will depend to a certain extent upon the cohesiveness of what Freudenberg (1997) and Picou *et al.* (2004) have called ‘corrosive communities’. These are groups of people who have been thrown together, usually by the chronic impact of similar torts, and whose identity and dynamic is shaped by factors such as their collective physical and mental health, their anger at the system failure of institutions, and the length of the litigation in which they are involved.

Although the Bangladeshi arsenic case shows some signs of strategic planning, one suspects that this has been mainly top-down. Well-intentioned environmental lawyers have played an important role, along with local and international NGOs. There has been media coverage but, with honourable exceptions, it has more been in the mode of disaster reporting than explorations of the underlying issues. Collective protests and performative action by the members of corrosive communities has been minimal other

than in the commencement of legal action in the British courts. As we will see, even this seems to be on shaky ground, not yet having come to trial.

Toxic torts: *Sutradhar v NERC*

Denunciation of a guilty party has not been straightforward in the case of arsenic in Bangladesh. There were many stakeholders involved in the provision of clean water, from technical experts and funders to policy-makers and well engineers. Who among them is to blame? When it became clear in the 1990s that there was a major environmental health crisis emerging, it was UNICEF that the Ministry of Environment and the Department of Public Health Engineering first thought of suing (Anon 1999). This was because UNICEF has provided funds for the sinking of up to one million tubewells since 1972 (Mahmud and Capella 1999; Smith *et al.* 2000). D'Monte (2004) has reported that a senior health official of the GoB claimed at a meeting of Asian environmental journalists in Comilla that Bangladesh was 'a victim of UNICEF aggression' and that the arsenic poisoning was a case of 'criminal negligence'. There is no hint, however, in UNICEF publications devoted to their contribution to water development in the region, of any sense of guilt or culpability (UNICEF 2000). According to Pearce (2001), UNICEF's usual defence is that 'at the time, standard procedures for testing the safety of groundwater did not include tests for arsenic [which] had never before been found in the kind of geological formations that exist in Bangladesh.' In any case, 90 per cent of tubewells are privately owned, so UNICEF and other funders only started and encouraged what became largely a popular movement of self-provisioning (BAMWSP 2004), and, ultimately, UNICEF has global legal immunity as part of the United Nations family of institutions.¹⁵

A possible model for litigation is the Bhopal disaster. This was a chemical leak in 1984 from a Union Carbide factory in India that was responsible for the deaths of thousands, immediately and in the twenty year aftermath. The Indian government assumed responsibility for suing the transnational corporation, and this was done initially in the American courts (Xue 2003). However, the GoB has not shown any resolve for mounting a similar action and all of the legal proceedings have so far been privately initiated (Murshid 2004). First, in 1999 the prominent Advocate, Rabia Bhuiyan, applied to the Bangladesh High Court for a writ to force the GoB to show cause why they should not halt the installation of further tubewells when they knew about arsenic-

contaminated groundwater.¹⁶ Soon after, Brotee, a campaigning NGO in Dhaka, made a similar writ application and in July 2001 the government was instructed to respond;¹⁷ then in August 2005 the Supreme Court in Dhaka directed the GoB to implement its own National Arsenic Mitigation Policy and Plan and to honour its legal duty to provide safe water (Anon 2005).¹⁸

These positive developments in Dhaka are part of a dual strategy adopted by Bangladesh's environmental justice organizations. In addition to legal action in Bangladesh, they spotted a potential opening in the international dimension of aid and consultancy that is so intimately entwined with every aspect of development in that country. In May and July 2001 a team of solicitors from the British firm of Leigh Day & Co met fifteen arsenic victims in two villages of Chandpur district (Mortoza 2003). Its partners in Bangladesh are Brotee, BELA, the Dhaka Community Hospital, and the Bangladesh Legal Aid and Services Trust (Anon 2001; Anon 2002). Brotee were aiming for compensatory payments of at least £5,000 per head for the victims they had identified (Anon 2003). Legal action was started in London in August 2002 (Leigh Day & Co 2004) on behalf of 512 clients alleging negligence by the BGS in the execution of their 1992 survey. The BGS report purported to comment on the quality of groundwater but, despite testing for 31 trace elements, did not look for a contaminant, arsenic, that had been found in other parts of the country and was listed by the WHO 'Guidelines for drinking water quality' as a hazard in drinking water. A sample case was issued in the name of Binod Sutradhar, asserting that he had suffered personal injury as a result of drinking the water, and in February 2003 a further case was lodged for Mrs Lucky Begum.¹⁹

In May 2003 the High Court in London gave permission for this case to go to trial (Bachtold 2003). The Bangladeshis were hoping that eventually it would be possible to bring a class action involving hundreds or thousands of those who have the symptoms of arsenicosis. Much depended on whether the BGS (through the NERC) owed these water consumers 'a duty of care'.²⁰ The British courts have hitherto dealt with such cases of environmental justice mainly in terms of nuisance and negligence (Pugh and Criddle 2004). Counsel on behalf of the claimant here argued a failure of a duty of care. Davies and Exley were accused of not mentioning arsenic, not because that particular element was itemised in the brief, it was not, but because the study aimed to understand 'the

modes of occurrence of trace elements that may be toxic to biological systems'.²¹ According to Mr Sutradhar, 'in 1992 the possibility of arsenic being present in the groundwater should have been known to reasonably competent hydrogeologists'.²² If the report was not intended as an analysis of the potability of water, then that should have been made clear. Sharmeen Murshid (n.d. 1) goes further

'The arsenic crisis in Bangladesh is a classical example of negligence and distorted development policies. Both governments and international agencies must share the blame and must be made accountable for [their] actions'.

In response, the NERC defended the BGS by stating that, as far as they were concerned, they owed no duty of care to Mr Sutradhar and Mrs Begum, nor, by implication, to any of the other consumers of water in Bangladesh (BGS 2001, NERC 2005). The 1992 report was prepared for the ODA and there were no contractual arrangements with any organization in Bangladesh. The work was part of an agricultural irrigation project and, as such, had nothing to do with drinking water. The BGS had no relationship with the claimants, who were anyway unaware that the report existed and therefore could not have made any decisions about their water supply based upon it. The NERC also reminded the court that they were 'not responsible for the presence of arsenic in the water and had no responsibility for removing the arsenic' and, anyway, they had at no time certified the water as fit for human consumption. In their opinion 'no reasonably experienced researcher would have tested for the presence of arsenic in this location without some special reason to do so' (NERC 2003).²³

During the High Court hearing the claimant argued that the NERC had withheld material documentation. Mr Justice Simon decided that this was true and that a fuller analysis of the case at trial was therefore justified.

In February 2004 the Court of Appeal disagreed with the lower court and struck out the claim, chiefly on the grounds of a lack of proximity between the parties.²⁴ Legally, proximity may involve closeness in space and time but mainly addresses other aspects of the relationship between parties, for instance the close association between a parent and a child, a solicitor and a client, or a food manufacturer and a consumer (NERC 2005). Because proximity, or 'neighbourhood' as it is sometimes called, is contingent upon the facts of each case, the courts have tended to rely incrementally upon the precedent of

case law rather than any precise definition or foundational principle. Having said that, ‘foreseeability’ of the damage is generally thought of as a necessary condition, in this case referring to the reasonable likelihood that the 1992 BGS report would be shown to the Bangladeshi authorities responsible for ensuring a safe water supply in the study region as a basis for action.

In the Court of Appeal, the three judges delivered technical judgements that had little factual or abstract moral content. Lord Justice Kennedy’s commentary was divided into what he called ‘the construction issue’ and ‘the proximity issue’. On the former, he remarked that the report was clearly not intended as a comprehensive and definitive statement of water standards and, on the latter, he concluded that the BGS had ‘no duty to provide the claimant or his fellow citizens with potable water. They had no power to do so, and they could not even warn him of any dangers’. Lord Justice Wall agreed and said that these points were sufficient to strike out the appeal, but Lord Justice Clarke demurred in his minority judgement. He attached particular weight to the statement of Dr Sara Bennett, a Canadian environmental specialist consulting on Bangladesh’s Northeast Regional Water Management Plan, who pointed out that the GoB relies heavily upon foreign organizations for data gathering and analysis, with the implication that the 1992 report was therefore in close associative proximity to their decision-making processes. Lord Justice Clarke did not give any indication that he favoured Sutradhar’s case but he perceived in its element of proximity sufficient novelty to recommend a trial in this developing area of jurisprudence. For him the case of the NERC was weak in as much as:

‘the citizens of Bangladesh like the claimants were (at least potentially) so closely and directly affected by the negligent act or omission of the defendant in failing to test for arsenic and/or, having done so, in failing to make it clear to the reader of the 1992 report that there might be trace elements (including arsenic) not tested for which might pose a hazard to human health, that it ought reasonably to have had them in contemplation when deciding what to test for and how to report the results’.

Lord Justice Wall said that at first he had agreed with Lord Justice Clarke but then had changed his mind on hearing the arguments of counsel. The basis for this was that the

precedent cases were in his opinion not sufficiently favourable for a definition of proximity broad enough for Mr Sutradhar's case.

As a result of this judgement, the legal position for the time being seems to be that consultants are not legally liable in development aid situations 'because of the geography, chain of dealings, and supposedly the need to protect the future provision of development aid funds which may become restricted if legal claims arise in respect of services provided' (Michalowska 2004). Beck (1999) predicted exactly this kind of outcome due to the 'risk society's' 'organized irresponsibility', where attribution of responsibility has become increasingly difficult in complex technological systems.

It might be thought that the legal action was therefore pointless and achieved nothing. It is true that the complainants have so far gone empty-handed but they and those sympathetic to their action will have noted the minority judgement by Lord Justice Clarke and the opening out of the issues has certainly been of significance for a number of reasons. First, the very notions of a duty of care and of proximity are now higher on the agenda of environmental law than they were before and, in the very process of holding the NERC to account, Mr Sutradhar and Mrs Begum have been producing natures radically different from our previous understandings (Delaney 2001). These were subtly differentiated in the advocacy of the top silks Hon. Michael Beloff QC and Lord (Dan) Brennan QC, and also in the majority and minority judgements, and whether one favours the claimants or not, it seems likely that the arguments deployed on their behalf will appear again in future cases, with outcomes that will vary with different constructions of the balance between rights and responsibilities, with the varying institutional settings and, of course, with the diverse socio-natures on trial.

Second, however, whether one likes it or not, the epistemological singularities of the law have been imprinted upon environmental issues. Thus, Valverde (2003) and other sociologists of the legal process have revealed how court room knowledge is a curious hybrid of witness statements and facts gleaned from expert testimony, comprising that quasi-transcendental entity, 'common knowledge'. In the case of torts, the bar for scientific evidence tends to be set high because such an elevated value is placed upon the expert views. This tends to favour the global corporation or the scientific institution, with their teams of professionally plausible experts, against the ordinary consumer

citizen, so we hold out no immediate hope that *Sutradhar v NERC* can make a difference unless the House of Lords is willing to allow it to come to trial. In January 2005 their Appellate Committee granted permission for a hearing, likely to take place in mid-2006 but, even if they overrule the Court of Appeal, a trial in the High Court would be two years away.²⁵ Because the House of Lords provides a function of clarifying the general principles of law, they may well decide that a trial would serve the public interest.²⁶ They are not bound by precedent in quite the same way as lower courts and are therefore more open to new and innovatory ideas.

Ethics and proximity

The ethics of proximity are far from straightforward. According to Lord Atkin, in a classic judgement,

“The rule that you are to love your neighbour becomes in law, you must not injure your neighbour; and the lawyer’s question, “who is my neighbour?” receives a restricted reply.’

He argued that a duty care means that:

‘You must take reasonable care to avoid acts and omissions which you can reasonably foresee would be likely to injure your neighbour. Who, then, in law is my neighbour? The answer seems to be – persons who are so closely and directly affected by my act that I ought reasonably have them in contemplation as being so affected when I am directing my mind to the acts or omissions which are called in question.’²⁷

The definition of a neighbour and of his/her proximity is therefore crucial. Smith (1998, 18) sets out the Aristotelian origins of the notion that ‘extreme distance leads to indifference, while extreme closeness can lead to pity, or to such other emotions as envy and destructive rivalry: part of the everyday experience of face-to-face society’.

Boltanski (1993, 16) discusses this in the light of the global reach of the media and problematizes spectatorship in order to understand the link between the politics of pity and the politics of action. He makes a similar point:

‘The person who sees from afar is unaware of other people receiving the news, how near they are relative to the case, their readiness to act and whether or not they have pre-commitments. Each is thereby uncertain as to the existence of a ranked series of persons under an obligation to act to different degrees, as to

their possible position in this series, and as to the failure to act of possible helpers higher up in the series for whom they would have to become substitutes'.²⁸

On the other hand, Singer (1979, 2004), Corbridge (1993), Rawls (1999), Smith (2000), Follesdal and Pogge (2005), and Pogge (2006) and many others restate the principles of universal, non-localized obligations and human rights. Without such obligations, international relations, at both state and non-state levels, would diverge irreconcilably from egalitarian ideas of justice. They would also ignore the essential geographical observation that people's misfortunes often relate to their location, which in turn is a function of the contingencies of historical geography (Smith 1998).

Rorty (1989) would have us believe that meaning is derived from hope. Because of our commitment, like him, to certain aspects of pragmatism, we agree but wish to add an emphasis on action and practice (Atkins *et al.* 2006b). This may be the place-specific, integrative conduct stressed by Cutchin (1999, 268) as promoting 'the situational, deliberative, active, moral components of health and health care', but it may also be action at a scale that crosses continents. Denying responsibility because of an absence of immediacy of spatial association becomes morally indefensible if we reject the simplistic idea of proximity as co-presence and see it instead in its full complexity as networked association. At present the aid industry is using state institutions as holding companies or clearing houses of responsibility, in a way that enables a deniability of proximity. If there are sufficient steps in between the end user and the service provider, it is unlikely at present that anyone can be held to account. What is required, therefore, is the further development and maturing of the concept of proximity. Judicial commentaries on *Sutradhar v NERC* retain traces of a pre-modern law of torts, where the idea of action at a distance had yet to be assimilated, let alone any concept of global action. In order to guard against Habermas's concerns about the possibility of judicial tyranny, that judges tend to act according to their own interests and of the system that they serve (Ingram 2002), we need what Rorty (1980) calls a 'cosmopolitan conversation of humankind' in order to establish the pragmatic parameters that will redefine proximity in the interests of global environmental justice.

Missing from the judgements of both the High Court and the Court of Appeal is any appreciation of the reality of 'action at a distance' in the worlds of environmental

consultancy and international aid, or, for that matter, of the global reach of transnational capitalism. *Sutradhar v NERC* is an opportunity to debate this issue, and a more nuanced notion of proximity that would, in our opinion, be bound to eventuate. From a geographical point of view, Mason (2001, 422) has argued that ‘the growth of international law attests to the unbundling of sovereign authority for environmental governance, allowing new interstices of accountability’, and it could be argued that responsibility for the arsenic poisoning of millions of people in Bangladesh can be understood only in terms of theoretical contexts that are very different from the spaces of scientific and legal realism.

Torts, proximity and legal geographies

There have been various suggestions recently to provide a different vision of torts, toxic and otherwise. Berger (1997), for instance, argues that reliance upon expert scientific evidence to establish causal proof of harm has been an encumbrance to justice. Thus epidemiological evidence is treated with scepticism by judge and jury, and often with good reason because proof of causation is exceptionally difficult when cancers, for instance, can have several origins. In the case of arsenic there is no single signature symptom that is derived solely from that source, so establishing a link is difficult with a level of probability that would satisfy a statistician. In addition, she argues for a fundamental overhaul of torts because of ‘the present system’s indifference to creating adequate inducements, short of litigation, to goad [polluters] into gathering the data and funding the research that [is] essential to identifying and assessing potential risks’ (Berger 1997, 2131). She proposes that knowledge is so uncertain that the law should shift from proof of causality, always a problem for poor litigants and therefore a key issue in the ‘environmental justice’, towards a duty of care. This would require the corporation, government or institution to undertake research and provide information relating to risk. If due care is exercised in this way, then there would be no liability for injuries caused by pollution or dangerous products; the consumer or bystander would have been warned and would therefore have to bear the consequences. But if research was inadequate or not disseminated, the polluter would have to pay compensation. There are several issues here. First, in non-literate societies with weak systems of communication, how could the public be informed? Second, in information-rich societies might there not be an overload of risk data for individual citizens? Third, informational spaces and hazardous spaces have become complex in the era of global risks.

Even more fundamental is Desmond Manderson's (2006) reinterpretation of torts along the lines of proximity in the thought of Emmanuel Lévinas. In this formulation, proximity is seen as fundamental to ethics and also to the common law, and, in as much as legal geographies are elaborations of the nuances of proximity, they are therefore a key to both. Lévinas wrote of proximity, not in the calculative terms of Lord Atkin, but as an 'event that takes place prior to our having any categories in which to confine it' (Manderson 2006, 178). It is constitutive of subjectivity, in its passive mode at least, which is always built in relation to the 'other' (Campbell 1999). It is not the result of choice or reason but comes as a surprise to both plaintiff and defendant. Manderson therefore rejects the fiction of foreseeability, and the implicitly required foreknowledge of those affected by a tort, in favour of the element of negligence called 'breach', a failure of the non-contractual duty of care potentially owed to the rest of the world. Here he is reflecting the Lévinasian definition of proximity as arising 'not from my choices or foresight, nor from our policies, but from your vulnerability' (Manderson 2006, 176). Through this insight, Mr Sutradhar is in proximity to the NERC through his asymmetric relationship with them and a capacity to be harmed that he could not avoid.

Manderson goes on to argue that we must focus on the relationship between the parties and 'the power and the passivity of their dynamic'. He suggests that the question of proximity 'will only be resolved by a greater concentration on the actual and lived connection between the two, and not by a greater abstraction' (2006, 172). Legal geographies present an opportunity here at scales ranging from the local to the global. One possible approach is via gift theory, especially in the poststructural versions that involve high levels of mutuality between parties (Silk 2004, Barnett 2005). Another might be, as hinted above, a theory of networked, associative proximity.

Conclusion

If the House of Lords sends this case to trial, it may yet turn out to be a landmark. The NERC was sued in the negligence element of the law relevant to environmental torts.²⁹ While some academics and members of the public may have sympathy with Davies and Exley for being put in the firing line, when they no doubt thought that their 1992 report

was just another scientific report that would have a narrow audience and one that would make a small but positive contribution to the development of Bangladesh, there are others who argue that the full weight of responsibility should be borne by those of us who write such reports or undertake consultancy work in the developing world. Certainly, the concept of proximity has, in our view, scope for revision in the light of the ethical writings of Lévinas and poststructural gift theory, and, as a result, legal geographies may in future be propelled into the limelight of debates about torts of global significance.

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Endnotes

¹ The most common type of tubewell is in essence a small diameter metal or PVC pipe sunk vertically into soft, unconsolidated alluvial sediments. The water is pumped up from the aquifer by means of a handle.

(http://banglapedia.search.com.bd/HT/T_0240.htm). Accessed 2 February 2006.

² Pond and river water was previously used throughout rural Bangladesh, with access restrictions due to distance and ownership that meant inconvenience and hardship, particularly for the ultra poor.

³ Apart from clean water, the introduction of oral rehydration therapy was also important.

⁴ It is worth noting that exploitation of groundwater suited successive governments in the face of water shortages that were predicted to follow India's inauguration of the Farakka Barrage on the River Ganges in 1975.

⁵ The arsenic can be removed but there is no consensus yet on an appropriate technology to do so at the level of the household. Although tubewells are entirely responsible for the arsenic pollution, they may still be the best solution because drilling to greater depths generally yields safe water. The piping of water, either to standpipes or directly to households, is another attractive technology, and here the water might be chemically treated or from deep tubewells.

⁶ One theory is that anaerobic conditions underground favour the mobilisation of arsenic, assisted by microbiological reactions in sediments with an organic component. An alternative is that falling water tables due to excessive pumping has drawn oxygen into the aquifers, thus oxidizing sulphides and releasing arsenic.

⁷ (<http://groups.yahoo.com/group/arsenic-crisis/message/46>). Accessed 2 February 2006.

⁸ An approach is also mooted to the International Court of Justice in The Hague (Mortoza 2003).

⁹ Bronwen Morgan (2004) argues that, while the rhetoric of development aid implies generosity, in the lucrative water industry, power and money are always close to issues such as privatization of state assets in developing countries. This commodification has brought with it bitter contestation from citizen groups (Morgan 2006).

¹⁰ There have also been calls for a World Environmental Organization (Bierman and Bauer 2005).

¹¹ In negligence, the issue under discussion in the present paper, in British law the plaintiff must prove a duty of care, then a breach in that duty and, finally, that loss or harm has been suffered.

¹² Holmes enthusiastically based this category on the famous British case of *Rylands v Fletcher* (1868), where a mill owner was held to be liable for the flooding of a mine when his reservoir collapsed without warning.

¹³ In 2003 BELA was inducted into the United Nations Environment Programme's Global 500 Roll of Honour for pioneering activity in public interest environmental litigation.

¹⁴ There is presently a campaign by the Bangladesh Arsenic Mitigation Water Supply Project and a host of NGOs to provide alternatives to tubewells. These include improved versions of the traditional dug wells, sand filters to enable the use of pond water, and the harvesting of rainwater. Unfortunately there is evidence of arsenic in dug well water in some districts, and well and pond water has low bacteriological quality, so these alternatives are not guaranteed to be risk-free.

¹⁵ Convention on the Privileges and Immunities of the United Nations, adopted by the General Assembly in February 1946.

¹⁶ Ms Bhuiyan was the first woman barrister in Bangladesh and has been a member of parliament.

¹⁷ At the time of writing (February 2006), no hearing date had yet been set in Brotee's action against the GoB's Department of Public Health Engineering. Delays are common because of a shortage of judges.

¹⁸ Under Article 18 of the Constitution, the government is responsible for ensuring the public health. This is delegated jointly to the Ministry of Health and Family Welfare and the Ministry of Local Government, Rural Development and Cooperatives. Clause 18 of the first schedule of the Local Government (Union Porishod) Ordinance 1983 prohibits the sinking of tube wells that are dangerous (Murshid 2004).

¹⁹ Writ Petition No. 2736/2001, Claim No: HQD2X02630, *Binod Sutradhar v The Natural Environment Research Council* [2003] QB.

²⁰ A duty of care means taking reasonable precautions to avoid acts or omissions that would be likely to injure another.

²¹ Case No: A2/2003/1148: *Sutradhar v NERC* [2004] EWCA Civ 175.

²² *Ibid.*

²³ According to Murshid (2004), ‘there has never been a case before in which a party who has undertaken scientific study for a client has been held responsible to a third party who may have sustained injuries as a result of the study not being undertaken or reported in a particular way’.

²⁴ *Sutradhar v NERC* [2004] EWCA Civ 175.

²⁵ The Law Lords sitting were Lord Bingham of Cornhill, Lord Rodger of Earlsferry and Lord Carswell. The information about timing came by personal communication, 27th January 2005, from Mr George Gandy.

²⁶ Murshid (2004) claims that ‘this is the first case where a claim raises issues of direct versus indirect injury; personal versus economic loss and nature of the duty owed in aid projects to the developing world’.

²⁷ *Donoghue v Stevenson* [1932] A.C. 562.

²⁸ For further discussion see Chatterjee (2003).

²⁹ An alternative might have been civil liability in human rights. Mason (2005) argues that this will provide a fertile ground for claims in future cases of transnational environmental responsibility.