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Corporate environmental responsibility and accountability: What chance in vulnerable Bangladesh?

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ABSTRACT

Bangladesh has recently been enjoying significant economic growth mainly arising from an export led development strategy. However, in that process its natural environment has been degraded and become more vulnerable in geophysical terms (e.g. environmental pollution). Much of the Bangladeshi population are also vulnerable in socio-economic terms due primarily to widespread poverty. In this context we ask, albeit sceptically, whether there is any chance of holding corporations to account for their environmental responsibilities. Using the notions of vulnerability and ecological rifts we answer this question by providing evidence from published sources and a series of 32 semi-structured interviews with Bangladeshi stakeholder groups. Key findings include, inter alia, corporate reluctance to take responsibility for the environmental impact of their activities. Our interviewees discuss the possibility of a role for mandatory corporate reporting in enhancing corporate accountability and we argue that this is essential if the contradictions and irrationalities of the globalized capitalist system are to be made visible. Achieving such accountability, however, will not be easy due to a lack of political will and the prohibitive costs involved. Incurring such costs could raise the dangerous prospect of Bangladesh losing business to other, less regulated, economies.

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1. Introduction

Globalization is a highly contested concept (Guillen, 2001), which relates to the “increasingly deep interrelationship among countries, companies and individuals” (Eisenhardt, 2002, p. 88). This “worldwide interconnectedness” impacts upon many parts of modern life including economic and financial flows (Held, McGrew, Goldblatt, & Perraton, 1999). From the perspective of economic liberalization the removal of protectionist policies has led to greater levels of international trade and more closely interwoven economies (Gopinath, 2012; Stiglitz, 2002). Business, in particular multinational enterprises (MNEs), has performed a key role in globalization (Bakre, 2008; Eden & Lenway, 2001). It is these organizations that have been best placed to take advantage of the more open domestic economies. As such MNEs have been able to invest in, procure

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supplies from, and sell to a much larger number of markets. In so doing MNEs have the ability to add value to economies by contributing to their economic growth, productivity, and competitiveness, and potentially improve national welfare. Advocates of globalization focus on these potential opportunities for MNEs to be a positive force, but their increasing size and economic power also contains a threat. MNEs potentially have ‘a “dark side” represented by its potential negative impacts in the natural environment, labour and human rights areas’ (Eden & Lenway, 2001, p. 389, see also Gallhofer & Haslam, 2006 for an excellent summary of the “negative dimensions” of globalization). Globalization is a complex phenomenon (Gallhofer, Haslam, & Kamla, 2011) – such that it can simultaneously create ‘winners and losers’ and ‘benefits and costs’ (Gopinath, 2012, p. 324).

The ‘dark side’ of globalization is reflected in the potential for MNEs to “race-to-the-bottom”. Global competition is ‘adversarial’ (Drucker, 1989) and the ‘threat’ of MNEs within this global market can require even domestic companies to change their processes, systems, standards and cost structures (Dominelli & Hoogvelt, 1996). Systemically MNEs are required to accumulate capital and maximize shareholders’ wealth. Cost minimization is a key consideration in MNEs choosing where to invest, locate or procure supplies. The ability of MNEs to relocate from one country to another “is damaging as it exploits weakness and poverty” (Lévy, 2007, p. 607). Harvey (2000) identifies such ‘spatial fixes’, as a powerful resource for MNEs operating within the current capitalist system and he continues that this globalization:

...renders whole populations selectively **vulnerable** to the violence of down-sizing, unemployment, collapse of services, degradation in living standards, and loss of resources and environmental qualities... It does all this at the same time as it concentrates wealth and power and further political-economic opportunities in a few selective locations and within a few restricted strata of the population. (p. 81, emphasis added)

The implications of globalization for developing economies remain complex, but there is a potential for it to perpetuate inequalities (Stiglitz, 2002). One aspect is that the legal frameworks and regulations can be weaker and/or less strictly enforced in developing economies, as compared to those in more advanced economies (Hilson, 2012). Such weaknesses can be exploited by MNEs as they decide to take advantage of “regulatory arbitrage” (Jenkins, 2005) to (re)locate into developing economies with weaker regulations and legislation (Jamali, 2010).

The issues raised by globalization and its potential ‘dark-side’ of ‘spatial fixes’ and ‘regulatory arbitrage’ are of relevance to the critical accounting agenda (Poullaos, 2004). Gallhofer, Haslam, and Kamla (2011, p. 378) suggest that whilst “globalization threatens to silence local voices”, accounting has the potential to illuminate injustices and to ‘give a voice to local people’ (Gallhofer, Haslam, & van der Walt, 2011, p. 772). Moreover, social and environmental accounting and reporting may be able to make “visible relationships between economic, social and environmental impacts” (Poullaos, 2004, p. 723). Gallhofer and Haslam (2006, p. 921) see the potential for ‘counter hegemonic accounting information’ to raise awareness within a global community and thereby, to increase pressure for ‘socially responsible global business and its accountability’.

The aim of this paper is to specifically explore the potential of corporate responsibilities and accountabilities to redress the negative consequences of environmental pollution and degradation. We do so within the empirical setting of Bangladesh. In the context of globalization and given the vulnerabilities of developing countries like Bangladesh, we ask, albeit sceptically, whether there is any chance of holding corporations to account for their environmental responsibilities. We argue that this study has enabled us to give voice to local stakeholders from a developing country. We contribute to the environmental accountability literature by voicing the concerns of local stakeholders from developing countries which has received limited attention in prior research. Our study illuminates the vulnerabilities of developing countries and their local communities arising from the environmental impact of global commercial production processes. We believe this is important for reasons of intra-generational equity. We are concerned that current dominant corporate discourses may conceal these issues and silence these voices (Chwastiak & Young, 2003). We thus respond to the call made in this regard by Gallhofer and Haslam (2006).

The paper proceeds as follows. In Section 2 we discuss vulnerability and ecological rifts, as key concepts for understanding corporate responsibility and accountability. In Section 3 we introduce the socio-political context of our empirical setting, Bangladesh, and detail the research method used, which triangulates our data from interviews undertaken with both corporate managers and key stakeholder groups and published sources. Section 4 presents our key findings, and then we proceed with the interpretation and critical discussion of our empirical results in Section 5. The final section offers some concluding thoughts and ideas for future research.

2. Vulnerability, ecological rifts and environmental accountability

Vulnerability can be ‘manifest at multiple scales’ (Adger, 2006) from individuals or households to humankind or the entire global ecosystem (Smit & Wandel, 2006). These multiple scales, from global to individual, hint at the differing conceptions and definitions that are used when considering vulnerability. As such it is accepted that vulnerability defies universally accepted definition, and remains bedevilled with many interpretations and ramifications.

There have been, however, some useful attempts to review, collate and analyze the diverse application of, and perspectives on the concept of vulnerability (see for example, Montalbano, 2011). Montalbano (2011) reviews three basic components of vulnerability analysis. The first concerns a thorough analysis of risks including the nature, known or unknown probability distribution, different magnitude (size and spread), history, frequency, correlation, duration, timing

and severity of such risks. The second element focuses on an assessment of the degree of resilience and/or responsiveness including the ways households respond to or manage risks, and the formal and informal tools for managing, mitigating and coping with risk. The availability of coping mechanisms has to be coupled with a degree of “adaptability” or “resilience” of different households. The third component relates to a ‘benchmark’ – i.e. ‘a socially accepted minimum norm for each outcome under which households is said to be vulnerable to future loss’ (Montalbano, 2011, p. 1492). The first component of risk exposure relates to an exogenous perspective of analysis, while the second component of the dimensions of household response concerns an endogenous perspective. The third component analyzes the ‘outcomes’ that pose the threat of a potential ‘loss’ to the household, and attempts to set a ‘minimum norm’ in this regard that may be acceptable to the relevant community or society in the context of its specific realities.

In this paper, however, we will primarily draw upon the global environmental change literature, which determines vulnerability “by the interaction of a social (or human) and an ecological (or environmental) system” (Hinkel, 2011). In so doing this literature states that vulnerability to environmental change does not exist in isolation from the wider political economy and is “driven by inadvertent or deliberate human action that reinforces self-interest and the distribution of power in addition to interacting with physical and ecological systems” (Adger, 2006, p. 270). This literature also recognizes that human society both affects environmental change, most obviously through degradation of the air, water and soil (Fraser, Mabee, & Slaymaker, 2003), and is vulnerable to it. This political economy approach is most concerned with who are the most vulnerable and why (Füssel, 2007). In this sense vulnerability is ‘place-based’ and ‘context-specific’ (Hinkel, 2011).

Adger (2006, p. 268) suggests that “vulnerability is the state of susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt.” Susceptibility to harm is more pronounced where the system or the people are weak or fragile (Birkmann, 2007) and where there is limited availability of and access to resources. Where there is poverty, inequality, unemployment and debt, there is likely to be greater loss – in terms of life, health or economic resources (see for example, Brouwer, Akter, Brander, & Haque, 2007). Such contextual studies of vulnerability tend to “focus on class, race, age or gender” (O’Brien, Eriksen, Nygaard, & Schjolden, 2007). Stresses are distinguished from perturbations, which are often exogenous disturbances or shocks to the system (Berkes, 2007; Gallopin, 2006). In contrast stresses originate from within the system and tend to increase their presence relatively slowly such as through soil degradation (Gallopin, 2006). The various groups within society will experience different impacts from stresses, and perturbations with marginalized groups who lack power bearing a disproportionate burden (Adger, 2006). The absence of capacity to adapt or cope is also strongly associated with a lack of resources, infrastructure, health and education (Turner, 2010).

The right “to a safe environment without inherent vulnerabilities are parts of cosmopolitan and universal human rights” (Adger, 2006, p. 277). The most vulnerable groups, however, tend to be powerless, and economically and politically marginalized. Further, vulnerable groups are excluded from decision making processes (Adger, 2006) and from the formal economy and formal types of coping strategies (O’Brien et al., 2007). Vulnerable groups, therefore, suffer from a lack of entitlements to call upon resources (Füssel, 2007). If vulnerability is to be reduced, then policies and processes that lead to exclusion and inequity must be addressed (O’Brien et al., 2007).

Similarly, the natural environment, local communities and citizens are vulnerable to business actions (Brown, 2013). In a situation where one party is vulnerable to another, this “would generate a responsibility” (Brown, 2013, p. 493) and it “would seem to weigh heavily in deliberations about many business activities, especially in relation to large, impersonal risks to (and impacts on) the environment and the economy” (Brown, 2013, p. 494). Moreover, Brown (2013) continues that underprivileged groups are “especially vulnerable to the harms of pollution” (p. 502) and so ethically it is important to consider how these groups are impacted by corporate actions. The concept of vulnerability, therefore:

... makes it clearer why choosing to profit “through” polluting a community is ethically wrong for a manager than quasi-Kantian claims about each stakeholder mattering for his or her own sake. Exploiting a market inefficiency for greater profit while harming highly **vulnerable** interests of non-competitors is, like taking a dive in the penalty box, *cheating* at a practice that has definable and relatively clear rules. (Brown, 2013, p. 503, emphasis added)

Brown (2013) highlights vulnerability to environmental pollution at a local scale, but advanced and globalized capitalism is predisposed to result in environmental degradation at local, regional and global scales. At a global scale, Foster (1999) argues that:

... the scale of human economic processes began to rival the ecological cycles of the planet, opening up as never before the possibility of planet-wide ecological disaster. Today few can doubt that the system has crossed critical thresholds of ecological sustainability, raising questions about the **vulnerability** of the entire planet. (Page, 4, emphasis added)

Foster (2000), following Marx, argues that capitalism has created a ‘metabolic rift’ in humanity’s relationship with nature. Marx’s concept of a ‘metabolic rift’ refers to developments in capitalist agriculture and production requiring the mass migration of the population to the cities. These great changes in demographics resulted in “food and fibre” being transported from the countryside into the cities. Under this arrangement nutrients were taken from the soil of the countryside but were not returned to the same location. For the first time, therefore, under this form of social organization the nutrients were transported great distances where they were transformed into the pollution and sewerage of the cities. The ‘metabolic rift’ is problematic for two reasons. First, the soil is degraded as it is “robbed” of its nutrients. This means that over time capitalist

agriculture could only be sustained through the development and ever increasing use of imported (guano) and/or artificial fertilizers. Second, the waste and sewerage from the ever growing city populations create pollution that is emitted far from their source and to an extent that cannot be naturally accommodated by the air, land and water. Marx saw this ‘metabolic rift’ as part of capitalism’s alienation and division of nature (Foster, 2000; Foster, Clark, & York, 2010).

The ‘counter ecological’ nature of capitalism is further exacerbated in the modern globalized economy, which is linear in contrast to the more circular natural system (Foster, 1999). Capitalist production runs from, often non-renewable and therefore reducing, ‘sources’ to ‘sinks that are now overflowing’ (Foster, 1999, p. 12). This theft of the natural environment’s resources and the related environmental pollution is further encouraged by capitalism’s assumption that nature is a ‘free gift’ that can be appropriated and exploited (Foster et al., 2010). Natural resources that are abundant have no exchange value within capitalism and, moreover, Foster et al. (2010, p. 85) argue that it “cannot function under conditions that require accounting for the reproduction of nature”. The long timescales and interconnectedness of ecological systems is simply too complex and problematic for traditional accounting systems. We see then that abundant natural resources that become inputs for capitalist production are ‘free’ to be exploited until such time as they become scarce. Capitalism finds abundance abhorrent as it is not a source of private profit even though the creation of environmental scarcity can only truly be to the detriment of society and communities. It is also the case that the costs of waste and pollution are not accounted for. Rather these pollution costs are excluded and externalized from corporate accounts of their operations (Foster et al., 2010).

It is, perhaps, difficult to perceive a role for environmental accountability within this critical perspective on the business practices at the heart of capitalist activities. Foster et al. (2010, p. 71) do, however, suggest that “new green accounting systems . . . are important in bringing out the irrationality of the system”. Hopes of such green accounting informing the most vulnerable is problematic, however, as they do not have the ability or power to hold to account or sanction the corporations that can exploit and degrade their environment, and thereby add to their vulnerability. Roberts (2003) suggests that what is needed is for the most vulnerable to be able to enter into dialogue to inform corporations of their effects. Similarly, it has been suggested that “putting the vulnerable first” and placing them at the centre of the analysis enables more meaningful and feasible options to be conceived (Tschakert, 2007). Such accountability, however, is not possible if these vulnerable stakeholders are not empowered such that they can affect corporate decision making processes (Cooper & Owen, 2007). If the vulnerable remains subject to the hierarchical and coercive power of corporate management, then accountability will not be possible, and dialogue will not ensure the consideration of the social and environmental consequences of corporate actions (Roberts, 1996). Rubenstein (2007) suggests, perhaps more pragmatically, that ‘surrogate accountability’ through third parties is a better option for holding “power wielders” to account. This concept of ‘surrogate accountability’ is particularly relevant to the developing countries whose ordinary citizens are vulnerable to the actions of powerful groups.

In following Belal, Cooper, and Roberts (2013), it can be noted that much of the extant environmental accountability literature is characterized by the dominant corporate discourses and insights from powerful economies. Our worry, influenced by intra-generational equity concerns, is that such dominance obscures and silences the voices of the weaker developing country stakeholders. Of late a stream of literature is emerging (see for example, Belal & Roberts, 2010; Momin, 2013) which introduced voices of developing country stakeholders. Given the vulnerabilities of the developing countries, Belal et al. (2013) argue that it is important to give voice to the concerns of these stakeholders. While a handful of previous studies (Belal & Roberts, 2010; Momin, 2013) do provide the needed insights from the perspective of developing countries they mainly focus on social accountability. In this paper we contribute to this stream of literature by providing a critical account of corporate environmental accountability in a particular empirical setting, the developing country – Bangladesh. We note that such an account is hitherto unavailable and rare in the current environmental accountability literature. This is even more important for developing countries like Bangladesh for its exposure to the vulnerabilities arising from environmental degradation associated with its current pursuit of export oriented rapid economic growth.

To conclude this section, we are swayed by the contentions that vulnerability is determined by the interaction of ecological and social systems. Human society both affects and is affected by the environment, and this is apparent at multiple scales. We identify those living in poverty as being especially vulnerable, as they are susceptible to harm from the stresses associated with environmental change and have an extremely limited capacity to adapt to these changes. Such stresses (or rifts) are a direct result of the capitalist system and its relentless attempts to accumulate capital. We are particularly concerned by the role that corporations have in exacerbating this vulnerability by contributing to the environmental and social stresses being experienced. The next section provides the socio-political context for our empirical setting, Bangladesh, and our research methods.

3. Empirical setting and research method

The empirical setting for our research, which explores the potential of corporate responsibilities and accountabilities to redress the adverse impacts of environmental pollution and degradation, is Bangladesh. Since its birth in 1971, the GDP of Bangladesh has more than tripled in real terms, the population growth rate has reduced from 2.9% to 1.4%, and food production has increased three fold (GoB, 1998, 2007). Recently the economy has grown at nearly 6% per annum and the country’s status in the Human Development Index has consistently improved (from 0.347 in 1975 to 0.515 in 2012, for example). Between the early 1990s and the mid-2000s, the percentage of people living in poverty declined from 59% to 40% (MoEF, 2008).

Environmental degradation, however, now threatens to undermine years of poverty reduction efforts (GoB, 2011). It is argued that environmental degradation has occurred alongside the broader processes of economic progress, rapid urbanization and industrialization and now puts pressure on life and livelihood of especially the poor and vulnerable (GoB, 2011). Of particular concern are: industrial pollution, urban air and sound pollution; waste load and effluent discharge from factories; loss of bio-diversity, deforestation and conversion of forest lands and wetlands to other usage and anthropogenic interferences (notably housing and industrial and commercial installations); loss of agricultural land to rapid urbanization and associated settlements, sand and gravel mining, and 'brickfields' (brick manufacturing kilns); and conversion of coastal polder protection lands to shrimp farming that causes loss of mangrove forests and coastal agriculture (See for example, GoB, 2011; Haque, 2013; IUCN, 2012).

Given the above, it is perhaps surprising that Bangladesh has a plethora of policies and rules with provisions and guidelines for regulating social and environmental behaviour of corporations – notably the Factories Act 1965, Industrial Relations Ordinance 1969, Employment of Labour Act 1965, Bangladesh Environment Conservation Rules 1997, and Bangladesh Environmental Conservation Act 1995 (amended in 2010). However, Belal and Roberts (2010) conclude:

... in reality these [policies and regulations] are routinely flouted due to lack of enforcement by the relevant agencies which appear to be corrupt, weak and ineffective. They also lack strong political will and necessary resources such as manpower, skills and knowledge to be able to implement the relevant laws. (p. 313)

The weak and largely ineffective institutional and regulatory regime has allowed irresponsible corporate practices to persist. Examples include: the unwillingness of manufacturers to install effluent treatment plants (Belal & Roberts, 2010); and the systematic neglect of and partial compliance with regulatory sanctions (for example, only 196 out of 903 industrial units which were identified by the Department of Environment as 'mostly polluting' responded to a governmental 'notice' served to explain their (alleged) role in pollution) (Khan & Belal, 1999).

Alongside the efforts to identify and ascertain the corporate role in environmental pollution there have been increasing calls and exhortations to the private sector to play a more responsible and inclusive role in facing the adversities of environmental degradation and pollution. The government (MoEF, 2008), for example, suggests a number of roles for the private sector. These include more responsible corporate behaviour and compliance with relevant policies and regulations including the 'polluter's pay' principle; and picking up the responsibilities of redressing consequences of environmental degradation as part of their corporate social responsibility (CSR) activities (MoEF, 2008).

It is within this socio-political context that our research is set. Prior social and environmental accountability literature related to Bangladesh has mainly concentrated on the social aspects (see for example, Belal & Cooper, 2011; Belal & Owen, 2007; Islam & Deegan, 2008). While these studies made important contributions to the literature from the developing country context, they paid less attention to the environmental accountability of corporate activities which is the focus of this paper. Given the vulnerability and fragility of the Bangladeshi natural environment we believe that this is of considerable importance and provides an interesting case within which to explore the issues our paper raises. It is already known that even in the top 100 companies listed on the Dhaka Stock Exchange corporate environmental disclosures are still at a low level (Belal et al., 2010). Islam and Islam (2011) reveal a lack of environmental accountability by a Canadian oil and gas multinational regarding two major environmental accidents which significantly affected local communities in Bangladesh. These studies provide some limited insights based on secondary data. We contend, however, that in order to capture the full implications of the environmental consequences of current corporate activities in Bangladesh more in-depth insights based on primary interviews with various relevant stakeholders are needed. In this paper we have addressed this gap in the literature.

Given the objective of this paper, we have adopted a qualitative research method. We triangulate data collected from interviews (Morgan & Smircich, 1980; Silverman, 2013) with published governmental and media reports. We believe this triangulation of evidence base (Hoque, Covaleski, & Gooneratne, 2013) enables us to gain a deeper understanding and helps us to further illuminate the views and perspectives offered by our interviewees (Creswell, 2012).

We conducted a total of 32 semi-structured interviews with a wide range of stakeholders in Bangladesh. The interviewee selection was driven by a desire to cover a wide range of stakeholders who are able to provide insights into the theme of corporate environmental responsibility and accountability. Our interviewees include both corporate and non-corporate stakeholder participants. This helped us to capture the views of these groups from alternative perspectives. Stakeholder interviewees include, inter alia, top policy makers and environmental NGOs. Policy makers are included to unravel the latest thinking on environmental accountability in the Bangladeshi policy arena. We have included environmental NGOs as they campaign for the grievances and concerns of the victims of environmental pollution. Access to the interviewees (including their selection) was facilitated via our local connections in Bangladesh provided by the third author of this paper who also served as a Country Representative of an international environmental organization. Most of our interviewees occupied senior positions in the organization and had the responsibility of dealing with environmental issues. Some details of the interviewees are provided in Table 1.

Interviews were conducted as a loosely guided conversation (Kvale & Brinkmann, 2009), beginning with a brief introduction to the project. The remaining time of the interviews centred on the topics of the economic prospects of Bangladesh and its environmental implications, industrial pollution, the politically charged issue of the establishment of effluent treatment plants, water pollution, environmental accounting and reporting and the corporate role in this regard. We

Table 1
Summary of interviewees.

Codes of interviewees	Category of interviewees	Number of interviews
NGO1-NGO4	Non-governmental organizations	4
IA1-IA4	International agencies	4
TPB1-TPB5	Trade/professional bodies	5
G1-G2	Governmental agencies	2
MP1-MP4	Members of parliament	4
C1-C13	Corporate managers	13
Total		32

have developed this topic list based on our study of previous literature on environmental accountability (see the previous section of this paper) and the specific context of Bangladesh as introduced above.

Interviews were conducted during the period of July 2009 to April 2012 in the interviewee's place of business in Bangladesh. The average length of the interviews was one hour. Most of the interviews were recorded and subsequently transcribed. Interview notes were taken where recordings were not allowed. All interviewees were given a promise of anonymity to protect their identities. Interviews were analyzed following the procedures of data reduction, data display and conclusion gathering (Miles, Huberman, & Saldana, 2013; O'Dwyer, 2004). We interrogated and structured the empirical data using the theoretical notions of vulnerability, ecological rifts and accountability explained in section two of this paper. The purpose here is to develop a theoretically-informed thick narrative (Quattrone, 2006) on corporate environmental accountability (or the lack of it) in Bangladesh and its consequences. The results of this analysis are presented in the next section under two key themes. We believe that these two themes best describe our empirical results and enable us to accomplish our research objective.

4. Description of empirical results

4.1. Economic growth, industrialization, environmental degradation and vulnerability

Many people within Bangladesh are vulnerable, particularly due to levels of poverty and a lack of resources to cope with environmental stresses. Given this it is perhaps not surprising that there was a very clear acceptance from our interviewees that further economic development was needed within Bangladesh (NGO 1, NGO 2, TPB 1 and TPB 3). There was also widespread acceptance that this development would be in the form of industrialization and that the corporate sector has a key role in this respect. Our interviewees, however, were very quick to discuss the relationship between economic development/industrialization and environmental degradation. First, they expressed concerns over the levels of water extraction in the city of Dhaka. The level of ground water is decreasing at an alarming rate and is being freely taken for corporate production. Some of our interviewees explained it in the following terms:

I need lots of water. There are 4/5 deep tube wells in this company. Underground water is getting exhausted. . . I am digging 10 feet every year as I am not getting water. Mainly the levels from where we get water are . . . deep water which we lift from 350–450 feet below the ground. This level has decreased and it is a big concern. It has decreased all over Bangladesh. At one time we won't get water; no industry will run. . . [C9]

Basically we use deep tube well to use ground water. Recently we have set up [tube wells] in deeper than the previous levels so that we do not face any scarcity of water in the following 10 years. [C8]

Here we see a clear example of a natural resource that is considered to be a 'free gift', with no exchange value, being taken at an unsustainable rate. Such exploitation of nature is one aspect of an ecological rift (Foster et al., 2010) and the second aspect, environmental pollution, also featured strongly in our interviews. For example:

Our main problem is water pollution. Our economic development is also related to that. . . most of our industries were set up besides rivers. Because of that two things are happening. One is pollution and another is river erosion. As they have been uncontrolled for a long time, now it has created a critical situation. (IA 1)

It has often been argued that the single major source of water pollution in the country has been the industrial sector (Hoque, 2011). The damage is done through such means as unregulated discharge of chemical effluents and other untreated wastes into the major river systems; reluctance on the part of the private sector to invest in mitigation measures; and non-compliance of relevant government policies. In a recent statement, the country's previous Industries Minister, for example, noted:

. . . industries in this country do not have social responsibility to care for environment and often they do not operate their effluent treatment plants. . . Industrialization must take care of all environmental concerns. . . Installation of

effluent treatment plants will be made compulsory for industries and efforts will be taken to expedite ... the relocation of the tanneries from Hazaribagh to save the river Buriganga. (The Daily Star, 23 April, 2013)

Another study found that the water in the rivers around Dhaka city has become so polluted in recent years that the water treatment plant (in Syedabad) is struggling to cope with nearly untreatable 'wastewater'. It also noted that industrial pollution from the Hazaribagh tanneries has permanently polluted the shallow aquifer of the city, and that Dhaka is approaching a public health crisis (The Daily Star, 23 April 2013, Dhaka). A recent investigation on Hazaribagh – where most of the 206 tanneries of the country are concentrated – concluded as follows:

Hazaribagh, or Thousand Gardens, could not be further from its name. Lacking a single waste-treatment facility, the area is drowning in pollution. ... some 21,000 cu m of untreated waste is dumped by tanneries into the Buriganga River every day. (Motlagh, 2013)

Matin (1995) identifies the country's booming garments and textile sector as another source of major environmental pollution. Most of the international attention is drawn to this sector because of its poor health and safety records which has cost many lives. What is also significant, but has received less attention, is the environmental degradation and lack of corporate accountability. A recent media investigation (Saha, 2014) noted that major pollution is caused by the Dhaka Export Processing Zone in Ashulia where most of the garment factories are located. This pollution is adversely affecting public health, community livelihoods and nearby water bodies. From an extensive field visit to another industrial zone (Savar, a suburb of Dhaka), where a significant number of these factories are located, Yardley (2013) had the following observation:

Bangladesh's garment and textile industries have contributed heavily to what experts describe as a water pollution disaster, especially in the large industrial areas of Dhaka, the capital. Many rice paddies are now inundated with toxic wastewater. Fish stocks are dying.

This environmental pollution has a direct impact on the livelihoods and health of vulnerable sections of the Bangladeshi population and this also emerged from our interviews. The untreated industrial wastes and effluents have had adverse health impacts on vulnerable local communities and have made areas of Dhaka almost unliveable (Saha, 2014; Yardley, 2013):

An excess of chemicals in the water and soil is taking their toll on the health of roughly 180,000 people now crammed into the area, many of whom attest to a rise in painful skin rashes and respiratory problems. (Motlagh, 2013)

These concerns over the impacts of environmental pollution on the health and livelihoods of the Bangladeshi people were reflected by our interviewees as below:

However, this industrialization polluted one of those areas very seriously. As a consequence, productivity of crops decreased significantly and fishes were also in danger. People faced skin diseases, and drinking water sources were also polluted. ... Some of the studies tried to quantify this relationship and it showed that about 22% of diseases in our country are caused due to environmental degradation. (IA3)

People of Bangladesh have to incur huge cost every year essentially because of pollution-related diseases. Therefore, pollution has huge implications for a developing country like Bangladesh. (NGO 3)

I think, since 80% of Bangladeshi people rely on environmental resources, development should not be done by polluting the environment. It is because you are polluting the river and thus hampering the livelihood of millions of people. (NGO 1)

Another sector thriving in Bangladesh – the ship-breaking industry which accounts for around a fifth of all ships scrapped in the world and generates around USD 1.3 billion annually – has recently found itself at the forefront of criticism for some particularly damaging practices. Not only does it provide 'one of the most hazardous jobs in the world' it is also responsible for widespread damage to local environments through effluent discharge from the ships and hazardous materials – like asbestos and lead – leeching into the shore and the sea (EIU, 2012; Hossain & Islam, 2006).

The ability of those Bangladeshis living in poverty to cope with and respond to the risks and impacts of environmental degradation on their livelihoods and their health is highlighted as a concern within our interviews and has been reported in earlier research (Belal, Khan, & Alam, 1998; Khan & Belal, 1999). Some of these vulnerabilities arise from water pollution, unscrupulous use of ground water and disposal of untreated industrial wastes and effluents.

Our interviewees suggest that there is a corporate responsibility for economic growth and industrialization, but that this has come at an environmental cost. One interviewee actually stated that when compared to "western" developed countries, Bangladesh had "rights" for development (IA 1) and this appeared to be as a result of a sense of intra-generational inequity between the developed and developing world. This 'dark side' of globalization (Eden & Lenway, 2001) was further illustrated by another of our interviews:

From that perspective our industries are growing but one of the reasons why Bangladesh is industrializing in the garment sector and textiles is not that they are highly mechanical or highly electrical product but because this is highly polluting. So basically what the rich countries are doing is exporting the pollution. Every T-shirt has "X" amount of pollution associated with it, if I charge the X amount the T-shirt price will be triple the market price. They do want to

externalize these two parts and they want to externalize where? Into the canals of Dhaka, poor people are using those canals so in externalizing that rich man's cost to the poor person's life in Dhaka. (NGO 2)

There was also a strong sense that current environmental pollution is in conflict with future economic growth. This is to say that there is a cycle of events such that current economic growth creates environmental pollution, which will in turn adversely affect future economic growth:

Pollution and economic growth are directly and strongly related. The more the level of pollution a country has, the more the level of economic growth is hampered. (NGO 3)

Pollution and [future] economic growth are inversely correlated. Environmental pollution is already a serious negative economic externality in Bangladesh. The impact of water and air pollution has been estimated to contribute negatively around 4% of the GDP. (IA 2)

In this context, the relevant national policy documents also argue that the above phenomena (including 'the adverse interactions of environmental degradation') have taken a 'heavy toll on the development processes' of the country and

...have severe consequences for citizen's welfare, especially for the poorer segment that may not have adequate access to coping mechanisms... [These] will threaten the significant gains made in poverty reduction over the past two decades and disproportionately impact the life and wellbeing of **vulnerable** groups that include women, children, elderly and ethnic minorities... (GoB, 2011:187–188, emphasis added)

Bangladesh's National Environmental Action Plan similarly identifies unplanned and unregulated industrial and commercial activities and resultant degradation of environment and livelihood as one of major developmental challenges (MoEF, 2004).

The first core theme from our interviews is, then, an acknowledgement of the vulnerability of those living in poverty in Bangladesh to the risks of environmental degradation and pollution. In particular the impacts on livelihoods and health and the potential for loss of life are seen as threats to which resilience and an ability to respond need to be developed. The next sub-section considers how this influences our interviewees' views as to corporate responsibility and accountability for environmental pollution.

4.2. Corporate responsibility and accountability for environmental pollution in Bangladesh

The existing and potential role of the corporate sector in facing the challenges of environmental degradation has received greater attention in recent years in Bangladesh. The discussions have typically centred around two broad issues. Firstly, the contribution of some corporations – especially industrial and manufacturing units – to environmental degradation and the debate about corporate environmental accountability and responsibility. Secondly, a suggested corporate role in facing the challenge of environmental degradation in the forms of support to communities towards poverty reduction and social protection; more responsible behaviour and environment-friendly practices in the production processes, and partnership with the government and other actors in their efforts for combating the adversities of environmental degradation – especially targeting the poorer communities.

Most of our corporate interviewees were aware of the environmental issues raised above, but they were not perceived as being a priority for business:

...environment is a very important issue. [However] it is not one of our major concerns. [C 12]

Similar views were also expressed by another interviewee – noting the business realities or commercial imperatives of Bangladeshi business owners:

As a citizen of the country I would like to ensure environmental safety of the country. But in business, I have to trade this off against profitability... We are businessmen. Very rarely do owners have a long term view towards these issues. [C 6]

An ad hoc 'firefighting' approach seems to be the prevailing norm. The following quote nicely captures the current corporate attitude:

I think that the general mind set in Bangladesh is that trouble shooting is the way to survive... [C 2]

In addition our corporate interviews reveal denial and failure or unwillingness to recognize the implications of some of the environmental impacts of their own business as portrayed in the following quotes:

...in the pharmaceutical sector the issue is not that prominent like in other industries such as in coal and other sectors. [C 11]

Well, as far as I am concerned [our company] does not have any major impact on the environment with regard to pollution because our company is not heavily dependent on fossil fuel. [C 12]

However, our non-corporate interviewees clearly identified a ‘problem’ with industrial pollution in Bangladesh. In Section 4.1 we provided evidence as to stakeholders’ concerns over water pollution, but business’s contribution to air pollution was also identified. For example:

Another factor is air pollution. Hundreds of brick factories are creating severe air pollution, as the carbon compound, sulphur compound, dust particles... are being released into the air. (IA 3)

There was a recurring theme from our interviewees that the corporate sector was polluting the environment. Furthermore it was felt that the polluters did not take any responsibility for their environmental pollution:

What is interesting is that in externalizing that cost they [the corporate sector] don’t have to do anything or they don’t take any responsibility. (NGO 2)

I found that the corporate houses engaged in manufacturing or productions are indifferent regarding pollution... We have observed how they pollute rivers, canals, crop fields around their industrial areas. They do not even bother about this pollution... I do not find them to be very conscious of pollution but I hope for a better future. (IA 4)

Business’s ability to externalize the costs of pollution, or in other words their ability to pollute without reducing their profits, is symptomatic of capitalism (Foster et al., 2010). Such environmental costs are not borne by the businesses, but by the vulnerable communities attempting to live and maintain their livelihoods in the proximity. Our interviewees clearly felt that there was a lack of corporate responsibility for environmental pollution and this was explained as being due to the perception that pollution abatement is ‘very expensive’ (IA 1) and ‘requires huge investment’ (TPB 1). For example, when discussing some companies’ failure to use Effluent Treatment Plants (ETPs) one interviewee stated:

Some companies do have ETP but they are neither functional nor operational because it involves a huge cost. (IA 3)

In recent times the government has made it compulsory for all manufacturing facilities in the country to have ETPs. However, a recent study of the top 100 companies listed on the Dhaka Stock Exchange revealed that only five of them disclosed having ETPs (Belal et al., 2010). Corporate non-compliance with these environmental regulations is a widespread phenomenon in Bangladesh. One interviewee from the corporate sector summed it up as follows:

Again it was a matter of compliance. It is a mandatory requirement in Bangladesh. We have both the incinerator and ETP. The ETP is there but the cost of running it is not feasible and there is no monitoring environment. So you can set up an infrastructure but that will never work. Everybody has a way of knowing when the next inspection will be held. [C 2]

Such irresponsibility is despite the existence of environmental legislation within Bangladesh:

You know that there are a lot of environmental policies of which some are very good... If we compare us with Bhutan and Pakistan, we find that we have very good rules, legal framework and good policy. (IA 1)

This interviewee continued that in his/her opinion the problem was that this legislation was not enforced and this was a recurring theme throughout our interviews. In the words of one Member of Parliament:

There are problems in the government machinery which is why laws are not being implemented. Even High Court orders have been ignored. (MP 1)

Enforcement of the environmental legislation is the responsibility of the Department of the Environment (DOE) and a number of reasons for its failure in this regard were suggested. A lack of resources, particularly in terms of human resources, was commonly referred to as a key constraint to the DOE being able to monitor and enforce legislation. However, the power imbalance between the DOE and the corporate sector and levels of corruption were also referred to:

The Department of the Environment has the ultimate responsibility to maintain the quality of our environment. There is an Act and by law all the power is given to the director general’s department. It does not adequately equate with manpower... Of course the challenge is too big... They should be the powerful one and the industry should be the victim or frightened but it is the other way around. (NGO 2)

This enforcement approach has not worked in the past and it is unlikely to work in the foreseeable future if sufficient resources can’t be deployed. This mechanism also gives rise to perverse incentives on the part of the industries making non-compliance through collusive corruption highly profitable. (IA2)

We see, therefore, that there are significant vulnerabilities arising from an inability to enforce the environmental regulations by the governmental agencies, a non-compliance culture and related issues of corruption. The role of regulatory agencies in the control of chemical and industrial pollution in Bangladesh was studied by Matin (1995), who concluded that the actual extent and magnitude of such pollution and their impact on human health and livelihood remains little known, ‘analytical capabilities are limited’, and ‘the application of regulatory standards is weak and, in some cases, non-existent’

(p. 468). Indeed, the institutional and policy weaknesses of the concerned public agencies responsible for environmental and natural resource management are now well known (Khan & Belal, 1999). These weaknesses include: the lack of an integrated approach; weak institutional mechanisms; widespread corruption; bureaucratic elitism; centralization and non-participatory working style; politicization and favouritism in service delivery; and resistance to reform and change.

The inability of the DOE to enforce environmental regulations reflects, according to one of our interviewees (MP 1), a lack of 'political will' of successive governments. In order to change this "political commitment is a must" (MP 3), but in the Bangladeshi context it is difficult for government officials to ensure compliance without having the necessary backing of their political masters. Unfortunately many of these political masters are also industrialists running businesses which are polluting the very environment the DOE is attempting to protect. Here we see the power of the State and policy makers. Whereas it is often hoped, or assumed from a liberal democratic perspective, that the State will be acting to ensure "the common benefit of society" (Archel, Husillos, Larrinaga, & Spence, 2009, p. 1285), the reality may be different. In some cases the State can be found to perpetuate differences such that those most vulnerable remain disadvantaged and continue to receive an unequal distribution of wealth (Archel et al., 2009).

The views of our interviewees suggest that, at least in some instances, the corporate sector is failing to adhere to their legal responsibilities for the environment in Bangladesh. Moreover there was no evidence from our interviews to suggest that the corporate sector was taking particular ethical responsibility for their own environmental pollution. Our interviewees perceived the primacy of corporate responsibility for economic development, but this can and does have negative environmental consequences. Our stakeholder interviewees call for resources to implement and enforce existing environmental legislation such that the corporate sector will be required to fulfil their legal environmental responsibilities or face punishment. It also requires strong 'political will' on the part of government.

Given our interviewees' views on corporate responsibilities for the environment we next wanted to ascertain what role reporting could play in corporate accountability in this regard. There was support for companies to report on their environmental impacts:

Well, we would like to know. . . what type of wastage is discharged, who is monitoring this discharge, how the public consultation is made for their industry set up, how they address the complaints made by general public from their annual reports. (NGO 1)

Transparency is a good policy and companies should fully disclose . . . even with poor performance. The information should include water and air pollution. . . data along with the statements on regulatory compliance and the level of performance achieved compared to the general norm. (IA 2)

This view was not unanimous, however, with concerns raised about whether appropriate data was available and whether guidelines were in place (IA 3). One interviewee also cautioned that companies "should disclose information, but it is more important to monitor and take corrective measures" (TPB 1). There were a number of reasons proffered as to why such reporting would be valuable. First, it was suggested that such a requirement would be of value to companies, as they would be required to better "understand their own processes" (NGO 2). Second, disclosing environmental information would be of value to members of society, as it will help raise awareness and public understanding:

At first, people will not understand the meaning of such disclosure, but once the awareness is created among people, they will understand the meaning and necessity of such disclosure. Then they too will feel that we should work together with other developed nations, in order to curtail global pollution and environment degradation. (TPB 1)

It was further suggested that disclosure and increased public awareness will result in companies being subjected to greater pressure for corporate responsibility for the environment and for companies to comply with environmental legislation:

If we do that habit [environmental reporting] as a practice it will make [companies] more responsible. . . I think that should be done. This would give tremendous impetus in following the law of the country. (NGO 2)

Increased awareness among people would mean that the companies will then be forced to comply with the environmental rules and regulations, to keep their stakeholders content. (TPB 1)

In the context of the current move by the Bangladesh Bank (the central bank) to require all banking companies to report on environmental matters, a number of our corporate participants have argued for mandatory forms of corporate environmental reporting. The reasons behind this argument lie in the call for creating a level playing field for the better performers and ensuring that early movers are not disadvantaged. Support for environmental reporting is revealed in the following quotes:

This [environmental reporting] should be mandatory and more stringent than it is currently because we don't have much time. [C 10]

. . .it [environmental reporting] should be included in the regulatory framework. It should be included in company law or SEC [Securities and Exchange Commission] rules. [C 8]

A final suggestion was that such disclosures would be valuable to stakeholder groups such as those that we have interviewed in this study. In making such environmental data available it would empower such groups to take actions for themselves rather than having to rely upon the DOE:

Our idea is to make it [environmental information] available on the internet, so that anyone can know about their compliance situation. They will not have to go to the DOE. They will be able to check from the online data base, whichever regulatory provisions they have not yet complied with. There might be sample based monitoring under which our people will go and check, and if they still fail to comply, there will be punishment. (IA 3)

Our interviewees did, therefore, perceive a role for environmental disclosure in addressing some of their own concerns about a failure of corporate responsibility for the environment. Information has the ability not only to inform, but also to empower the public and stakeholder groups within a society. This is especially relevant within countries that include a large vulnerable population.

5. Interpretation and analysis of empirical results

We now apply the theoretical and contextual insights developed in Sections 2 and 3 of this paper to make sense of the empirical results presented in the preceding section. This paper started by discussing globalization and the potential for its “dark-side” (Eden & Lenway, 2001) to result in negative impacts on the natural environment and vulnerable communities within developing countries. We argue that Bangladesh and its citizens are particularly vulnerable, as the country strives to industrialize in search of economic development to alleviate poverty. Such industrialization, however, can be costly in environmental terms and disadvantage or put at risk the most vulnerable citizens. Our paper provides evidence that in Bangladesh recent economic growth has come at the cost of environmental pollution. In particular, water pollution of key rivers and air pollution affects the health and livelihoods of the Bangladeshi population. Our interviewees’ concerns in this regard resonates with various influential media reports (Motlagh, 2013; Renton, 2012; Saha, 2014; Yardley, 2013).

Our interviewees appear to be aware of the adverse environmental costs of economic growth via export oriented industries such as textile and leather processing. Their grievances were evident in the talk of ‘exporting pollution’ from wealthy developed countries to the ‘backyard of the most economically destitute countries’ like Bangladesh (Derry, 2012, p. 253). Korten (2001) refers to the ‘polluting factories and waste disposal sites’ in these vulnerable countries which are created as a result of powerful nations’ and their businesses’ attempt to keep their own neighbourhood pollution free and pleasant. In this regard, the environmental havoc created, by the export oriented tannery and leather companies, in the poor neighbourhood of Hazaribagh in Dhaka is a case in point. A recent Guardian report (Renton, 2012) captured the condition of Hazaribagh in the following words: “Bangladesh’s toxic tanneries turning a profit at an intolerable human price”. The reporter notes this was a pleasant neighbourhood (Hazaribagh means “thousand gardens”) but there is no flower now instead there is an unbearable smell and toxic wastes have made the neighbourhood uninhabitable. This is an industry which earns half a billion pounds a year and supplies cheap shoes and bags for the affluent customers of developed countries. However, the environmental responsibilities and accountabilities in this process have simply become a secondary consideration as they will increase the product price (indicated by one of our interviewees). Earlier in the paper we have noted similar environmental problems created by other industrial sectors such as textile (Saha, 2014; Yardley, 2013) and ship breaking (EU, 2012).

Corporate responsibility for economic development was widely accepted by our interviewees, but concerns over the environmental costs of this were equally prevalent as highlighted above. Our stakeholder interviewees were very much of the view that business does not take responsibility for its environmental pollution. Even our interviewees from business acknowledged that environmental considerations were not a priority and certainly were secondary to economic considerations. This is to say that businesses felt that the ‘costs’ of environmental responsibility are prohibitive if they are to remain competitive within the global marketplace. The systemic need for capital accumulation through ever increasing profits requires companies and governments to continually reduce costs or suffer the consequences as business is lost. Such pressures are an obvious manifestation of the current advanced capitalist system and of the ‘dark side’ of globalization.

Moreover, such environmental irresponsibility was made possible by a lack of enforcement of existing environmental laws. Such a lack of enforcement is a well-established failing within developing nations (Hilson, 2012) and businesses, it appears, are willing to forsake both legal and ethical responsibilities to the environment in order to survive. National policy documents have envisioned and prescribed specific roles and responsibilities for business and the private sector in order to ‘ensure development’ in the face of ‘environmental degradation’ (GoB, 2010; MoEF, 2008). We consider, however, that any hopes that the business sector will adopt a more responsible approach towards environmental degradation or even comply with relevant environmental policies seem unrealistic. Unless political support and significant resources are made available, it is difficult to see how this environmental irresponsibility will change; but this too is problematic. Archel et al. (2009, p. 1300) note the ‘partisan role of the State’ whose objectives for economic growth are at odds with pressing ecological concerns and they ‘tentatively’ conclude that given these circumstances ‘it is unlikely that significant changes in corporate behaviour or reporting will be forthcoming’ (Archel et al., 2009, p. 1301).

Our corporate interviewees reflect a degree of awareness and acknowledgement of the vulnerability (and corresponding inability to adapt and cope) amongst the most disadvantaged groups of Bangladeshi society. As introduced earlier, vulnerability exists where there is poverty, inequality and a lack of resources and infrastructure. The vulnerable communities suffer most economically and in terms of health and loss of life, when there is environmental change, as they are unable to adapt. In Bangladesh, we see evidence of environmental stresses, such as unsustainable water extraction and pollution against which the most vulnerable are powerless. A tone of philanthropy and patronage is discernible from the interviews. The interviews, however, do not go far in recognizing the complicity of the private sector to the creation of such vulnerability, and in committing a more definitive role for the sector in addressing the problem. The vulnerable communities affected by these activities do not speak English nor do they have the power to seek redress. Our findings, to our thinking, suggest that responsibility for the rights of the vulnerable do not “weigh [sufficiently] heavily in deliberations about many business activities” (Brown, 2013, p. 494). Derry (2012) noted similar environmental irresponsibility in the emerging ship breaking industry in Bangladesh and highlighted the plight of voiceless workers in the ship breaking yard.

We cannot see any prospect of making these powerful business actors accountable to the powerless vulnerable communities and workers. We have noted earlier that the government and its various agencies are also unable or unwilling to protect the interests of these vulnerable stakeholders because a number of policy makers are involved in the corporate activities causing environmental degradation (observed by one of our interviewees). Lack of corporate accountability seems to be the order of the day here. In this context of unequal distribution of power the concept of ‘surrogate accountability’ (Rubenstein, 2007) might help us to ponder over a possible way forward for bringing the powerful actors like businesses to account for their poor environmental performance in Bangladesh. If comprehensive corporate environmental performance data can be made available to the NGOs and pressure groups they might act as a third party on behalf of the affected communities and workers to hold the businesses to account. It is unlikely that such information would be made available by businesses voluntarily in a transparent way. This leads us to explore the possibility of mandatory requirements.

Indeed, our interviewees did perceive a role for mandatory corporate reporting in enhancing environmental accountability. Mandatory corporate reporting has the potential to redress the information asymmetry that currently exists between businesses and their stakeholders. As such it has the potential not only to inform, but also to empower the public and stakeholder groups within a society. Achieving such accountability, however, will not be easy. Our evidence shows that businesses operating within Bangladesh are able to flaunt legislation and therefore appropriate resources to enforce mandatory requirements would be essential. Furthermore, if such reporting is to truly enhance accountability then it will incur costs. Systems will need to be in place to collect, collate and report data. Also, for enhanced credibility such reporting would require independent verification. Such costs have the potential to impinge upon the competitiveness of the businesses operating under these regulations and could raise the dangerous prospect of Bangladesh losing business to other, less regulated, economies.

Whilst MNEs continue to be driven by profit maximization and capital accumulation, we fear that environmental responsibility and accountability within vulnerable developing economies will remain ‘elusive’ (Gardner, Ahmed, Bashir, & Rana, 2012). ‘Regulatory arbitrage’ (Jenkins, 2005) and ‘spatial fixes’ (Harvey, 2000) remain a powerful weapon of MNEs operating within our globalized economy. The ability to relocate operations or supply chains simply adds to the vulnerability of Bangladesh and its citizens. Thus, capitalism systemically contributes to the economic vulnerability of certain groups in developing countries through its requirements for capital accumulation and, hence, cost reduction.

Moreover, the capitalist system contributes to the environmental stresses experienced by the vulnerable in locations such as Bangladesh. Capitalism’s ‘spatial fixes’ have reduced the high level of environmental pollution that was previously experienced in the developed countries and has exported it to developing nations. The industrialization apparent in developing countries tends to be through those industries that are dirty and pollute. This is most obviously reflected in the export-oriented ship-breaking, textile, leather and tannery industries that are so central to Bangladesh’s economic progress.

More advanced and globalized capitalism, Foster et al. (2010) argue, has created an increasing number of ‘ecological rifts’ at local, regional, national and planetary levels. Within Bangladesh we find evidence of corporations taking unsustainable levels of natural resources, particularly ground water, and contributing to environmental degradation through high levels of water and air pollution. This creates a local ecological rift within Bangladesh. Whilst ‘spatial fixes’ can perhaps be used to temporarily repair or hide such local ecological rifts this is not possible at the planetary level. Moreover, the eco-modernization argument that technology can and will save the day, through technical fixes, is nothing more than a fantasy (or as Foster et al. (2010) call it “capitalism in Wonderland”). The combination of capitalism’s continual need for growth and the laws of physics (thermodynamics and entropy) are such that capitalism is doomed to be unsustainable. As Foster et al. (2010, p. 105) argue:

These [orthodox] analyses tend to be big on the wonders of technology and the market, while setting aside issues of physics, ecology, the contradictions of accumulation, and social relations. They assume that it mostly comes down to energy efficiency (and other technical fixes) without understanding that in a capitalist system, growth of efficiency normally leads to an increase in scale of the economy (and further rifts in ecological systems) more than negating any ecological gains made.

The ‘ecological rift’ at the planetary level, Foster et al. (2010) contend, is a direct result of the capitalist “juggernaut” that requires ever increasing profits and capital accumulation. It is capitalism’s exploitation of both humanity and the natural environment that “fuel this juggernaut” and so humanity’s alienation from nature and the related ecological rift cannot be

redressed within a capitalist society. As such a “social and cultural revolution” is required if humanity is to become more ecologically sustainable. Such revolution would require humanity to rediscover its authentic metabolic relationship with nature.

As we noted earlier, however, even Foster et al. (2010, p. 71) perceive a role for ‘green accounting systems’ that can bring out the ‘irrationality of the system’. As such “new green accounting systems” could play a critical role in highlighting capitalism’s contradictions and contributions to environmental degradation and the ecological rift, which may, in Foster et al.’s (2010) terms, allow a social and cultural revolution to “transcend the system.” We are convinced that environmental accountability is essential if the contradictions and irrationalities of the capitalist system are to be made visible. Such accountability must include the voices of the vulnerable, particularly those on the periphery of capitalism (the Global South), if they are to help challenge those with the economic power at the centre. In this way it may be possible to challenge the orthodox capitalist economics that has created human vulnerability and ‘ecological rifts’.

6. Conclusion, limitations and future research

We conclude the paper by observing that Bangladesh (currently a low income country) has achieved considerable economic growth in recent times and aims to become a middle income country by 2021 (World Bank, 2012). This has been and continues to be achieved via export led industrialization supplying global markets. We argue, however, that Bangladesh has paid a heavy price in environmental terms (as evidenced by its low ranking in the 2014 Global Environmental Performance Index, <http://epi.yale.edu/epi/country-rankings> (accessed 20.10.14)). Moreover, the evidence presented in this paper reveals that significant environmental costs have been incurred in terms of air and water pollution, public health hazards, alarmingly low ground water level and by vulnerable community members losing their livelihood. We noted with concern that poorer communities and powerless employees are most vulnerable and bear most of these environmental costs without any effective access to the avenues of redress. They are often unable to hold the power wielders to account for the impacts of corporate activities on their lives and livelihood. In the context of a weak regulatory regime, widespread corruption, retracted role of government and the proximity of business leaders to the corridors of power, it is less likely that the State will be able to protect the common interests of these vulnerable stakeholders.

Under these circumstances of inequality of power standard accountability mechanisms, whereby the aggrieved stakeholder can directly hold power wielders to account, are unlikely to be feasible. Drawing from Rubenstein (2007) we have suggested ‘surrogate accountability’ of business to the vulnerable stakeholders via third parties such as NGOs as a possible way forward. This alternative notion of accountability has better potential in developing countries where NGOs might act as surrogates for victims of corporate activities and sanction the power wielders on behalf of the vulnerable with a view to redress the balance of power and hold the corporations to account. The vision for such alternative accounting and accountability should help expose the irrationalities of the current dominant corporate accountability regime and might ultimately pave the way for Foster et al.’s (2010) “new green accounting systems”.

The empirical contribution of our study mainly stems from a unique set of interview data which helped illuminate the voices of vulnerable stakeholders of a developing country – Bangladesh – with regard to corporate environmental accountability (or the lack of it). Such insights are important but scarce within the current environmental accountability literature. Theoretically we contribute to this literature by introducing the concepts of ‘vulnerability’ (Brown, 2013; Montalbano, 2011), ‘ecological rifts’ (Foster et al., 2010) and ‘surrogate accountability’ (Rubenstein, 2007). We support Brown’s (2013, p. 503) argument that the concept of ‘vulnerability’ is useful as it “yields relevant and sufficiently nuanced considerations when evaluating managerial decisions . . .” We extend this, however, by considering how such ‘vulnerability’ and ‘ecological rifts’ are systemic to capitalism. We contend that the ‘surrogate accountability’ mechanism suggested above has emancipatory potential (Gallhofer & Haslam, 2006) as it highlights the contradictions and irrationalities of the capitalist system.

Although we have managed to interview a wide range of stakeholders one of the limitations of this paper is that it does not contain direct insights from the vulnerable poor communities and workers. However, we have interviewed environmental NGOs who often campaign for these vulnerable groups’ rights. We call for further academic research targeted at identifying and analyzing corporate environmental responsibilities and accountabilities to those people who are most vulnerable to the effects of their actions. In particular we would welcome further research that gives voice to poor communities and workers who are vulnerable to the environmental degradation caused by corporate irresponsibility. Our paper focussed upon Bangladesh, but we call for further papers to consider communities vulnerable to ecological rifts throughout the developing world. Further empirical and conceptual research that imagine ‘new green accounting systems’ (Foster et al., 2010), which make visible the contradictions and irrationalities of the capitalist system are also needed. Our interview data reveals differences in the perspectives of various stakeholder groups interviewed for the purpose of this study. Full examination of these differences is beyond scope of this paper. However, this is an area we recommend for future researchers as it may help us to understand the full implications of environmental degradation in developing countries.

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