

# **Environmental attitudes of polluting SMEs: qualitative insights from a low-income developing country**

## **Abstract**

In this paper we explore the environmental attitudes of polluting SMEs (small-scale firms that produce or deal with environmentally sensitive goods) from the perspective of owner/managers in a low-income developing country context. Utilising extensive qualitative data from SMEs operating in two of the most polluting industries in Bangladesh—leather tanning and textile dyeing, we provide a qualitative understanding of how the owner/managers formulate, interpret, and judge the environmental issues related to their business operations. Our analysis indicates that the owner/managers hold four types of distinct environmental attitudes towards the environmental issues relevant to their businesses: conscious, instrumental, resentful, and complacent. We differentiate these attitudes based on three salient dimensions: owner/managers' general interest in environmental issues, their commitment to act in environmentally responsible ways, and key stakeholder focus. Our study contributes to the small business literature by identifying complexity in the owner/managers' responses to relevant environmental issues and offering a nuanced understanding of the environmental attitudes of polluting SMEs in a low-income developing country context. In addition, our findings inform policies designed with the practical needs of small-scale polluting firms in mind.

## **Keywords**

Developing countries, polluting firms, SMEs, environmental attitude, environmental pollution, Bangladesh.

## Introduction

The economy of many low-income developing countries is heavily reliant on polluting firms that produce or deal with environmentally sensitive goods such as plastics, hazardous chemicals, textiles and raw hides. Although the informal nature of such firms and the poor socio-economic conditions in which they operate are well documented in the extant literature (Duflo et al., 2013; de Oliveira & Jabbour, 2017; Tewari & Pillai, 2005; Kathuria, 2007; Vazquez Brust & Liston-Heyes, 2010), little has been written about the way owner/managers<sup>1</sup> of such firms, especially of the smaller ones, perceive the environmental issues related to their activities. In this study, we address this knowledge gap and provide a qualitative understanding of the environmental attitudes of small and medium sized polluting firms (called “polluting SMEs” hereafter) from the perspective of owner/managers.

Understanding the developing country perspective is of critical importance because of the links between economic development and environmental damage, in turn connecting to global pressures of poor environmental and individual health (Panayotou, 2016), climate change (Crick et al., 2018), migration and refugee crises (Black, 2018). We look to Bangladesh and the cases of the leather tanning and textile dyeing firms in particular, chosen because they are especially high polluters and play a significant role in the national economy (Hasan, 2016).

Existing studies on SMEs and the environment in developing country contexts mostly tell us ‘what barriers SME owner-managers<sup>2</sup> face in taking pro-environmental initiatives’ (Zeng et al., 2011; Agan et al., 2013; Chan & Ma, 2016). However, they do not explain how SME owner/managers formulate, interpret, and judge the environmental issues related to their business operations, aspects which are equally important to understand from a policy perspective (de Oliveira & Jabbour, 2017; Tevapitak & Helmsing, 2019).

Drawing on rich data, our study accounts for this limitation by providing qualitative insights into the environmental attitudes of polluting SMEs in a low-income developing country context. Our analysis indicates that the owner/managers hold four types of distinct environmental attitudes towards the environmental issues relevant to their businesses: conscious, instrumental, resentful, and complacent. We differentiate these attitudes based on three salient dimensions: the owner/managers’ general interest in environmental issues, their commitment to act in environmentally responsible ways, and key stakeholder focus.

In addition to exploring the environmental attitudes of polluting SMEs, our study unpacks under what conditions the owner/managers of such SMEs perceive the environmental issues related to their activities. This offers advantages to policymakers in developing countries, who are constrained by the lack of detailed knowledge and understanding of key environmental issues, which often lead them to design ‘command-and-control’ type policy approaches (Selim, 2011) that ignore the socio-economic conditions within which SMEs operate (Lund-Thomsen et al., 2014). In the current study we unearth some of these conditions which will help the policymakers to design environmental policies and interventions suited to the needs of the small-scale polluting SMEs.

The remainder of this paper is organised as follows. In the next section we briefly discuss the existing literature on SMEs’ environmental attitudes. In the second section we discuss the key

methodological issues relevant to the current study. Thereafter, we present the empirical findings. We subsequently relate the key findings with the extant literature. We go on to discuss the implications of our research findings for owner/managers, and particularly for policymakers. We conclude by discussing the contributions and acknowledging the limitations.

## **Literature review**

SME owner-managers generally hold positive attitudes towards the natural environment and are keen to take the necessary steps to protect it. The problem arises when such positive attitudes collide with economic interest. When this happens, the latter dominates in most cases (Ahmad & Ramayah, 2012; Demuijnck & Ngnodjom, 2013; Tran & Jeppesen, 2016).

There is one group of owner-managers who place environmental responsibilities above everything else (Spence et al., 2000): ‘ecopreneurs’ (also known as green/sustainable entrepreneurs). Such people hold positive attitudes toward the natural environment and make genuine efforts to protect it (Kearins et al., 2010; Isaak, 2002; Pastakia, 1998). They undertake ‘green’ education to become experts in their chosen fields (Rodgers, 2010). Nonetheless, although there has been a growing interest in researching green/sustainable entrepreneurship in developed countries (O’Neill & Gibbs, 2016), little (if any) has been published on the presence and operationalisation of such entrepreneurship in developing country contexts (Tounés et al., 2019). In short, the phenomenon of environmental attitudes losing out to economic interests appears to be nearly-universal in developing country contexts.

The literature frequently states that a gap exists between what SME owner-managers say they would like to do and what they actually do in terms of environmental protection (Tilley, 1999; Schaper, 2002; Cassells & Lewis, 2011; Gadenne et al., 2009; Kollmuss & Agyeman, 2002). This has been referred to as the ‘attitude-behaviour’ gap (Revell et al., 2010; Battisti & Perry, 2011). The empirical studies that have sought to understand the attitude-behaviour gap and its underlying reasons have produced rather mixed results. Some found no relationship between the positive environmental attitudes of small business owner-managers and their environmental behaviours. Poor eco-literacy, low environmental awareness, lack of financial resources, inadequate institutional infrastructure, and limited business support are mostly cited as resistant forces that restrain SME owner-managers from transforming their positive environmental attitudes into actions (Tilley, 1999; Schaper, 2002; Cassells & Lewis, 2011; Gadenne et al., 2009).

Others reported that those owner-managers who have high levels of concern for the environment spend more time and resources on environmental initiatives than those with low levels of concern (Battisti & Perry, 2011; Naffziger et al., 2003). Their findings do not explicitly support the existence of the attitude-behaviour gap and suggest that the practices pursued by small business owner-managers are mostly consistent with their understanding of environmental responsibility. However, spending more time on environmental issues does not necessarily imply that there is no attitude-behaviour gap. The principle of least action (engaging in the easy pro-environmental behaviours) may be applied and used to mask the attitude-behaviour gap. The gap could still be there, but not yet empirically examined.

Mixed findings on the attitude-behaviour gap in SMEs may indicate two things. First, it is difficult to come to a general conclusion as to why SME owner-managers fail to translate their positive environmental attitudes into actual behaviours. This brings us to the second thing: that the attitude-behaviour gap is purely a context-specific problem and explanations may thus vary in different contexts depending on factors such as the information available to SMEs for better environmental performance, the availability of support services (e.g., switching to energy-saving options or recycling), and the surrounding socio-economic environments in which SMEs operate.

Even in similar contexts, owner-managers may consider environmental issues differently and their values may vary significantly. For example, Battisti & Perry (2011) and Cassells & Lewis (2011) both conducted their studies in New Zealand, yet produced different results. While the former found no explicit evidence of attitude-behaviour gap, the latter confirmed that such a gap does exist and is more pronounced in micro firms. This suggests that industry context is important—hence, the need to focus on more than one industry for a robust empirical analysis of SMEs' environmental attitude and/or behaviour.

The literature points to various factors that prove to be influential in explaining the environmental attitudes of local polluting firms in developing countries. At the firm level, investment in internal human resources, the provision of subsidised environmental management training to employees (Blackman & Kildegaard, 2010; Liu et al., 2010), individual owner-managers' environmental values and willingness to solve ecological problems (Spence et al., 2011; Roxas and Coetzer, 2012), and religious affiliations (Uygun, 2009) have all been found to be positively associated with pro-environmental attitude. At the broader level, a number of factors have been associated with pro-environmental attitude and management. These include: the competitive pressure to produce differentiated products (Wu, 2009); the competitive advantage provided by green technologies (Liston-Heyes et al., 2014); stakeholder pressure (Liston-Heyes and Vazquez-Brust, 2016); ISO 14001 certification (Agan et al., 2013); large buyer support-based monitoring programmes and championing environmental campaigns (Lee and Klassen, 2008); and improved brand reputation and other benefits from pro-environmental initiatives (Agan et al., 2013).

On the surface, these findings highlight several important aspects—such as the importance of owner-manager attitudes towards the natural environment, religious affiliations, the role played by foreign and/or big buyers in inducing smaller suppliers to undertake environmental management, and the importance of stakeholder pressure. However, they provide only a fragmented picture of the complex environmental issues facing the owner/managers of small-scale polluting firms in developing countries. They do not explain how and under what socio-economic conditions SME owner/managers formulate, interpret, and judge the environmental issues related to their business operations. Understanding these conditions will increase the knowledge base needed to develop more effective policies aimed at small-scale polluting firms in developing countries (Selim, 2011; Lund-Thomsen et al., 2014).

Another aspect—which is mostly absent from the literature—pertains to the nature of small business owners in developing countries and its subsequent impact on environmental attitudes. As mentioned by Lingelbach et al. (2005), entrepreneurs (i.e. small business owners) in developing countries present characteristics that are distinct from those of their developed country counterparts. A salient feature of the former is that most of them are

forced to become businessmen for their own survival, rather than being driven by challenge, inheritance, and independence, as many textbook definitions of entrepreneur might suggest (Azmat & Samaratunge, 2009). Specifically, the owners of small-scale polluting firms in developing countries have lower educational attainment, and are likely to be driven by economic motives as they struggle to survive for existence and operate within less developed institutional environments (Azmat & Samaratunge, 2009; Roxas & Coetzer, 2012; Demuijnck & Ngnodjom, 2013). Due to this, the personal circumstances of the people who manage these firms and their business orientations should be considered with caution before studying their environmental attitudes.

Our study therefore sets out to explore the environmental attitudes of polluting SME owner/managers while being sensitive to the nature of small business ownership in developing countries, and by considering the broader socio-economic environment within which owner/managers of polluting SMEs operate. In so doing, we aim to unpack how and under what conditions the owner/managers of such SMEs perceive the environmental issues related to their activities in the Bangladeshi context.

## **Methodology**

### **Research setting**

We collected empirical data from two locations in Bangladesh: the Hazaribagh leather tanning area (located in Dhaka) and the Gazipur industrial district (25 km northwest of Dhaka). We selected these areas due to their pollution-intensive nature, potential local and aggregate environmental and health impacts, proximity to residential areas, and significant contributions to the national economy of Bangladesh (Ministry of Industries, 2010).

Local small-scale factories in Bangladesh typically have a vertical (top-down) organisational structure. A factory's top management comprises the owner and his or her close family members. Generally, the top management makes all the decisions, including those related to the environment. Some factories have gradually started hiring professionally qualified middle managers for chemical management, leather processing and merchandising, supported by the recent trend of educational and training institutes on leather and textile manufacturing opening in Dhaka. It therefore made sense to interview both owners and middle managers (referred to here as 'non-owner managers').

### **Data collection**

We collected the empirical data over a period of four months in 2016 through semi-structured face-to-face interviews with SME owner/managers. We identified the sample factories from a list of SME clusters provided by the SME Foundation Bangladesh—a government organisation. This list, initially published in March 2013, was the most comprehensive and up-to-date database of manufacturing SMEs (those that employ between 25 and 250 people) in Bangladesh at the time (SME Foundation, 2013). We conducted semi-structured interviews in Bangla (the local language) with the owner/managers of the selected SMEs to collect the empirical data. Altogether, we conducted 34 interviews in 34 sites (see detail in Table 1).

[INSERT TABLE 1 HERE]

Our understanding of environmental attitudes builds on Schultz et al.'s (2004) work on attitudes to the natural environment, which refers to the collection of beliefs and behavioural intentions people (in this case, owner/managers of polluting SMEs) hold in regard to environmental activities. The environmental issues relevant to SMEs addressed in this study were largely informed by previous studies, including the ones conducted in the Bangladeshi context (Table 2). We piloted the interview schedule (Appendix A) in two textile dyeing factories and one tannery, which enabled us to appropriately adapt the questions.

[INSERT TABLE 2 HERE]

### **Data analysis**

We took a retroductive approach (Blaikie, 2009) in analysing the data collected from the owner/managers of polluting SMEs. In such an approach, analysis goes beyond the surface level content of the data in seeking to identify the underlying ideas and assumptions (Braun and Clarke, 2006). We started by filtering the collected data into themes and categories. To this end, we coded the interview data set out in transcript form, after which we interpretatively abstracted the issues and ideas raised by respondents into themes or conceptual categories, representing the attitudes of SME owner/managers, as would be usual in an orthodox hermeneutic approach (Crinson, 2007). Our next step was to establish theoretically deduced categories, drawn partly from the extant literature and our conceptual understanding, which offered a structural context for the particular discourses. The findings section presents this stage of data analysis.

Finally, we engaged in retroductive inference, in which we explained the conditions for the environmental attitudes by postulating a set of generative mechanisms that accounted for, and contextualised, the discourses of the interviewed SME owner/managers (Crinson 2007). The discussion section presents this third and final stage of the data analysis. Altogether, the data analysis was a three-step process: (1) phenomenology, (2) theorisation into categories, and (3) retroductive inference. Appendix B demonstrates our analysis scheme.

We manually transcribed, anonymised, and analysed the collected data in Bangla. During the writing up process, we translated the Bangla quotations into English. Given the cultural and linguistic differences between the two languages, it was particularly important to render respondents' meaning as accurately as possible when translating from Bangla to English. We present quotations here in cleaned-up form with 'ums', 'ers', and repeated words removed, in the interest of readability (following Poland, 2003).

During the data analysis phase, it emerged that the owner/managers' responses were affected by various factors—such as factory size (small or medium), product type (yarn dyeing, polyester dyeing, wet blue, or crust/finished leathers), the nature of production (wet or dry) and market orientation (local or international). Our findings should therefore be considered with reference to such heterogeneous characteristics of the sample SMEs. However, due to the qualitative nature of this research, we deliberately conducted the interviews to remain

open to all the owner/managers to draw out, and identify, different environmental attitudes. The openness of the interviewing process consequently led to interviewed owner/managers providing a broad and diverse range of responses.

Although we asked the owner/managers about their own opinions, some owners talked more about the environmental attitudes of other owners than of their own. A few tannery owners had dual roles—managing director and environmental consultant for leather manufacturing—therefore, they appeared to be more comfortable in speaking from the perspective of a consultant than from that of an owner, perhaps due to a social desirability bias (Roxas & Lindsay, 2012). The problem became more acute when we interviewed the non-owner managers. Their responses were threefold: their perspective on their own environmental attitudes, their perspective on those held by their owners (the owners of the factories for which they worked), and their perspective on those of other owners. Thus, we exercised our judgement in assigning the owner/managers' responses to different categories. Consequently, the environmental attitudes reported in this study are not strictly mutually exclusive.

## **Findings**

Our analysis indicates that the owner/managers hold four types of distinct environmental attitudes towards the environmental issues relevant to their businesses: conscious, instrumental, resentful, and complacent. We place these attitudes along a continuum in which the most positive (conscious) and the most negative one (complacent) are at the two extremities (Table 3).

[INSERT TABLE 3 HERE]

The environmental attitudes we identified should be interpreted in the context of the current study, not as universal or normative terms. For example, we used the word 'complacent', which may not necessarily be negative, to explain the owner/managers' tendency to disassociate themselves from their environmental responsibility. Next, we discuss the salient dimensions that differentiate these attitudes. Table 4 briefly explains these dimensions with exemplary data for each type of environmental attitude.

[INSERT TABLE 4 HERE]

### **The salient dimensions of the environmental attitudes**

As mentioned previously, the environmental attitudes of the owner/managers are differentiated based on three salient dimensions: owner/managers' general interest in environmental issues, their commitment to act in environmentally responsible ways, and key stakeholder focus. Conscious attitudes were characterised by the owner/managers interviewed having good technical and scientific knowledge. Owner/managers whose responses were categorised as conscious were generally keen to discuss various environmental issues, but did not always indicate an obvious commitment towards responsible environmental behaviour. Rather, they were keener to share their knowledge about the environmental impacts of the dyeing or leather industry.

As outlined in Table 4, instrumental and resentful attitudes differed from the others in that they emphasised cost-benefit analysis and buyer pressure. Owner/managers whose responses

were classified as resentful and instrumental would behave in environmentally responsible ways in the presence of any (1) financial reward and/or pressure from the buyers and (2) support from other stakeholders. Hence, their commitments to behave in environmentally responsible ways are termed as ‘ad-hoc’ and ‘situational’ respectively.

A salient feature of complacent attitudes was the belief that the current environmental performance was good enough and that no further improvements were needed. Basic environmental issues (e.g., ventilation inside the factories, cleanliness)—rather than more substantial ones (e.g., effluent treatment plants, drainage, environmental health hazards)—were mostly emphasised, which differentiated this attitude from the first one (i.e., conscious).

### **The owner/managers’ attitudes towards environmentally relevant issues**

#### **Conscious**

Sometimes, owner/managers exhibited a good understanding of the environmental impacts of their business operations and of the environmental health hazards to their labourers. On a few occasions, tannery owners frankly shared their knowledge on the disastrous environmental situation in Hazaribagh. For example, Tannery Owner OT6 unambiguously said, *“the condition of the road and the drainage system is terrible here. ...there are no dumping facilities, untreated chemicals from all the tanneries go into the same drainage system”*. Another owner (OT5) complemented this by saying: *“you’ll start getting the smell the moment you enter this area”*. When asked about the potential impact of wet blue<sup>3</sup> chemicals on labourers, one tannery non-owner manager (NOT4) said, *“already many [labourers] are affected by skin cancer, some are suffering from lung disease”*. On a similar note, Tannery Owner OT6 revealed a horrible reality: *“...the average life span of tannery labourers in Hazaribagh is 45-50 at best”*.

At times, when asked about the use of technology to reduce environmental impacts, non-owner managers of the dyeing factories were able to explain the environmental benefits of using effluent treatment plants (ETPs), for example, in preventing groundwater contamination, maintaining land fertility, and protecting aquatic animals, which illustrates their conscious attitudes. This is best reflected in Assistant Manager NOD6’s remark:

*“An ETP releases wastewater by treating the harmful substances. If those substances were released untreated, then the reproduction of aquatic animals would be hampered. Some aquatic plants are also important for the survival of aquatic animals; untreated chemicals, particularly arylamines, would destroy them as well.”*  
(Assistant Manager NOD6)

Unlike those of most of the tanneries, the owner/managers of the dyeing factories had a comprehensive knowledge of how to source environmentally friendly raw materials, particularly chemicals. This was perhaps due to their educational background. Most of the owner/managers had undergone specialised training in textile and chemical engineering and would only buy dye chemicals from suppliers that had Zebda, C and OEKO-TEX certifications<sup>4</sup>. Even the owner/managers of the non-exporting dyeing factories that supplied the local market had a good understanding of quality chemicals: *“we don’t have the luxury of buying imported chemicals, we [can only afford to] buy locally produced chemicals, but [we] make sure that they have got clearance from BSTP”*<sup>5</sup> (Dyeing Executive NOD3). This was perhaps due to the availability of technical and vocational education related to textile and



garment manufacturing in Bangladesh, which is why this sector in general is able to employ a more educated mid-level workforce compared to the tannery sector.

The younger owner/managers were more aware about the environmentally relevant issues than their older (first generation) counterparts. OT6, for example, was a young tannery owner who was working as an environmental consultant in Hazaribagh on a project funded by the European Commission. He was well informed about all four of the environmentally relevant issues discussed during the interviews.

*“You’ve [the researcher] got to see the future, Bangladesh will not be the same in 10 years, there will be more demand for environmental compliance as the economy improves ... technology will be the key ... tanneries that are not using the latest environmentally friendly technologies will not be able to stay in the competition.”* (Tannery Owner OT6 on using environmentally friendly technology)

### Instrumental

Sometimes, owner/managers perceived environmental sustainability as a way to secure large volume orders from foreign buyers. While awareness of environmentally relevant issues existed amongst them, most said they would not do anything environmentally friendly unless it was required of them (or rewarded) by the market or the regulators. Some owner/managers indirectly talked about the term ‘triple bottom line’, which indicated their awareness of a case for balancing economic, environmental, and social performance (Battisti & Perry, 2011). For example, Tannery Owner OT2 said, *“I would pay for all types of environmentally friendly technologies if my buyers ask for them....ultimately, the products I’m selling must be able to absorb the costs”*. The same person went on to say, *“I would stop doing it [i.e. paying for environmentally friendly technologies] without anybody’s permission the moment I would realise that **I was losing my money!**”* (emphasis added).

Put simply, maintaining profitability seemed to be the primary goal of those owner/managers who mostly portrayed instrumental attitudes, and investment in environmentally friendly initiatives was only considered by them when it was demanded by buyers or linked to getting additional orders (i.e., translated into increased profits). Furthermore, owner/managers sometimes provided rather peculiar justifications in support of their instrumental opinions: *“...why should we be concerned about community people? Is it a legal requirement? The buyers never ask us to save the community”* (Tannery Owner OT1). Tannery Non-Owner Manager NOT4 justified his instrumental attitude in a similar fashion: *“people in this area don’t even know about the pollution. When the smell is a bit too much, they rub their noses while passing through here”*.

### Resentful

Sometimes, it was difficult to understand whether the owner/managers’ attitudes were positive or negative; rather, they were expressions of anger on issues such as labour safety, responsible raw material sourcing, and the use of environmentally friendly technologies. Although the nature of those expressions (or anger) differed, they all had two common elements of rationalisation: they challenged the legitimacy of the environmentally relevant issues and scapegoated other stakeholders (cf. Chassé & Boiral, 2017). Although resentful attitudes seemed to be aroused by a great passion, they were still tentatively placed within the

negative spectrum of the continuum in Table 3 because they were indicative of the interviewed owner/managers blaming other stakeholders (i.e., scapegoating them) rather than of demonstrating environmental commitment. The following quotes illustrate the resentful attitudes held by some owner/managers:

*“... [tannery] workers don’t have any sincerity. They’re careless and sometimes [they are] completely disregarding of the pressures we [owners] go through. I often miss shipment deadlines because of my workers. The relationship between workers and owners should be mutually beneficial, you **must understand** this.”* (Tannery Owner OT5 on environmental health hazards to the workers; emphasis added)

*“If you’re [the researcher] talking about purchasing raw materials responsibly, it also means that I don’t have to pay **unfair prices** for my raw materials, right? But this is also a problem in Bangladesh. Tannery owners can, sometimes, be confronted with extremely high prices that are incompatible with the international leather market.”* (Tannery Owner OT2 on responsible raw material sourcing; emphasis added)

*“...don’t ask me anything about the environment, it’s something for the owner to think about, not me. I’m never allowed to give my opinion on these issues ... I’m now thinking of joining a new factory as my boss [the owner] is not paying me the salary he promised.”* (Dyeing Executive NOD3 on using environmentally friendly technology)

In the above instances, owner/managers appeared to justify their resentful attitudes by passing the blame to other stakeholders. OT5 was not concerned about the safety of his labourers because he thought they were not committed enough to deserve his attention. This could also be reflective of a kind of feudal scorn of those further down the social ladder—i.e., people who are seen as intrinsically of lower value do not work properly or hard enough. Similarly, OT2 blamed the raw material suppliers for overcharging the tannery owners, which, as he claimed, prevented him from doing business sustainably.

Finally, NOD3 disregarded the environmental issues (which he acknowledged) because he had a strained relationship with the owner who did not allow him to express his opinions on key environmental matters and was not paying him the promised salary. Most of the interviewed non-owner managers possessed the technical and scientific knowledge required to reduce the negative environmental impacts of the factories for which they worked. However, low salaries and, in some cases strained relationships with their employers, cause non-owner managers to continuously look to switch jobs. In fact, some of the non-owner managers said quite frankly that the environment was barely on their agenda due to anxieties over their own career prospects. They also added that the owners rarely consulted them about issues related to environmental protection.

### Complacent

Sometimes, owner/managers were highly satisfied with the environmental performance of their factories. However, in most cases, they failed to provide convincing evidence or examples of their genuine commitment to environmental sustainability. At times, they tried to legitimise their lack of environmental commitment by claiming that their business operations had no environmental impacts, or by downplaying the importance of an issue. For example, Tannery Owner OT4 asserted: *“my factory only does the first part [of leather manufacturing]*

*and we only use salt to process raw hides. ... we don't need any technology to cut down pollution because we don't have any!"* (emphasis added).

When asked about responsible raw material sourcing, the responses of the non-owner managers of the dyeing factories (e.g., NOD2, NOD3) sometimes indicated that the current system of buying the cheapest chemicals (i.e., raw materials) with any sort of quality certifications was good enough and nothing more was required. The non-owner managers often sought to distance themselves by 'passing the buck' to the owners: "[w]e're not supposed to think about the environment and ETPs, this is something they [the owners] should do" (Dyeing Executive NOD3).

With regard to labourers' environmental health hazards, owner/managers often provided various self-proclaimed logics to justify that no further improvements were required. Such as *"our factory uses less chemicals, so labourer safety is less of a concern for us"* (NOD1, Dyeing Manager); *"our production capacity is very low, so our labourers are relaxed most of the time"* (OD1, owner of a dyeing factory); *"my labourers [labourers who work at my factory] never complain about any issues, which means they are happy with whatever facilities they're getting"* (OT1, Tannery Owner). Such remarks perhaps highlight the owner/managers' lack of willingness to change their current approaches to the environmentally relevant issues.

### **Mixture of attitudes**

The owner/managers interviewed, in general, showed multiple environmental attitudes and our analysis failed to identify a dominant one. Figure 1 illustrates the overlapping attitudes of the owner/managers interviewed. As can be seen from Figure 1, the owner/managers cannot be categorised based upon a single type of attitude. Any single owner/manager can show a mixture of attitudes in relation to environmentally relevant issues. For illustrative purposes, we used quotations from Tannery Owner OT2 below.

[INSERT FIGURE 1 HERE]

Conscious: Tannery Owner OT2 was conscious of the poor environmental situation in Hazaribagh: *"The environmental situation here [Hazaribagh], in plain and simple terms, is absolutely disastrous. And in any means, I don't support this and there's no doubt that I'm also responsible for this"*.

Resentful: At the same time, Tannery Owner OT2 expressed his frustration when asked about (environmentally) responsible raw material sourcing: *"if you [the researcher] are talking about purchasing raw materials responsibly, it also means that I don't have to pay unfair prices for my raw materials, right? Tannery owners can, sometimes, be confronted with extremely high prices that are incompatible with the international leather market"*. Here, his resentful attitude was a result of the alleged irresponsible behaviour of the raw material (i.e., cow-hides) suppliers.

Instrumental: Tannery Owner OT2 was pragmatic when asked about using environmentally friendly technologies. He expressed his instrumental attitude by saying, *"I would stop doing it*

[i.e. paying for environmentally friendly technologies] *without anybody's permission the moment I would realise that **I was losing my money!***" (emphasis added).

The above quotations (out of many) confirm that individual owner/managers may not necessarily be associated with any one specific environmental attitude and that the different environmental attitudes shown by the owner/managers do overlap with each other. That is to say that their overall responses are indicative of different perspectives on different environmental issues and, sometimes, even on the same issue.

## Discussion

The purpose of this paper was to provide a qualitative understanding of the environmental attitudes of polluting SMEs from the perspective of owner/managers. We found that the owner/managers hold widely differing views and understandings in relation to the environmental issues; this is reflected in the various environmental attitudes we reported in this paper. This challenges the binary (positive or negative) representation of environmental attitudes found in the extant literature (Petts, 1998; Williamson et al., 2006; Tilley, 2000) and shows that a black and white categorisation of SME owner/managers' environmental attitudes is inappropriate as it fails to capture the nuance of differing opinions on different environment-related issues. SMEs are extremely diverse in terms of product type and capacity and operate under widely differing business conditions in terms of perceived pressures and drivers for environmental improvement; therefore, they adopt quite different business models and levels of environmental commitment (Parker et al., 2009; Blackman, 2006). As such, in our view it is essential to reflect on such heterogeneous characteristics when studying the environmental attitudes of SME owner/managers.

Although we did not investigate whether the environmental attitudes expressed by the owner/managers have any significant influence on the actual environmental behaviours of the factories they owned or for which they worked, those attitudes highlight some important issues that policymakers should take into consideration if they are to improve the environmental performance of the local polluting SMEs in low-income developing countries.

Conscious attitudes highlight the good technical and scientific knowledge possessed by the owner/managers, which contradicts the traditional idea of SME owner-managers in developing countries as lacking appropriate knowledge of environmental issues (Azmat & Samaratunge, 2009). Instrumental attitudes highlight the owner/managers' strivings to meet supply chain demand, where social and environmental concerns are secondary if they do not yield any economic benefits. Resentful attitudes highlight a lack of trust and mutual respect between the primary stakeholders such as owners and non-owner managers, owners and labourers, and owners and raw material suppliers. Finally, complacent attitudes highlight the change-resistant organisational culture found in local polluting SMEs in Bangladesh, by which owner/managers are often not keen on changing the status quo. Such attitudes also show that owner/managers sometimes lack an understanding of the environmental problems—and are unaware of this—which has been referred to as being 'unskilled and unaware of it'<sup>6</sup> in the psychology literature (Kruger & Dunning, 1999). That is, sometimes individuals can be unskilled and unaware of it, and act on the basis of ignorance while believing themselves to be knowledgeable.

Non-owner managers within the SME environment in Bangladesh are often disempowered in terms of not having a voice against the unfair treatment they receive from their owners. Low salaries, lack of job security, lack of career progression opportunities, and lack of scope to

give their opinions on environmental issues were some of the problems repeatedly mentioned as the main reasons for the lack of mutual respect between non-owner managers and owners.

Since many SMEs in developing countries discourage or undermine workplace democracy (Painter-Morland and Dobie, 2009), it is very important for non-owner managers to have access to some bodies where they can make their voices heard. Many industries do have strong labour unions. However, our findings emphasise the need for unions that actively seek to support non-owner managers in the SME environment by ensuring that they receive salaries compatible with the domestic market and reflective of their technical and academic qualifications, advising them on their rights, and seeking avenues for recourse in cases of unethical treatment. Otherwise, it is unlikely that non-owner managers will be able to use their technical skills and knowledge to improve the environmental performance of the factories for which they work, because they will be more concerned about the many personal issues that are more critical for their survival.

## **Implications**

The dyeing factory owner/managers were more conscious in relation to responsible raw material sourcing and to the use of technology (i.e. ETPs) to treat chemical waste. The presence of a large number of textile and dyeing related educational/training institutions in Bangladesh played a key role in that. This finding has useful implications for policymakers; to improve the environmental performance of local tanneries, they need to establish more training/educational institutes related to leather and leather technology in order for people to be trained in sustainable leather production. Bangladesh's leather sector is deemed to be competitive because of its low labour cost differentiation and local availability of hides. To maintain this competitiveness, this sector needs more skilled leather professionals who are capable of taking environmentally sustainable initiatives.

Our findings have indicated a strained relationship between owners and non-owner managers; this has implications for the former, who should ensure that their middle-management people have a secured employment contract with the factory and are provided with salaries that reflect their skills and are compatible with the local market. Owners also need to set up a psychologically safe working environment within their factories, one in which non-owner managers would feel comfortable in giving their opinions on both strategic and environmental issues. Decisions made by owners without consultation are more likely to be unsupported and misunderstood by non-owner managers; this may have long term negative impacts on the productivity of the latter and on the overall performance of the factories. By neglecting the non-owner managers' opinions on key environmental issues, owners are also missing out on valuable information sources. Non-owner managers, in most cases, are educated and possess the technical skills needed to take responsible environmental actions. Their persistent lack of interest in playing more influential roles in decision-making will ultimately harm both the factories and the owners.

Our findings suggest that younger owners typically have better knowledge and understanding of the global business scenario and local environmental priorities and better knowledge of key information sources related to environmentally responsible manufacturing. Thus, they, instead of their elder counterparts, are more likely to champion the course of sustainability in developing contexts. Governmental agencies could, therefore, set up programmes to encourage more eco-innovation, such as special tax rebates aimed at encouraging younger owners to develop green technology solutions (Uhlener et al., 2012). Platforms should also be

provided to disseminate more efficient production methods, especially to non-export-oriented firms, which, in developing countries, are isolated from knowledge transfers and developments from abroad (Vazquez-Brust et al., 2010). Therefore, the sharing of success stories in which a commitment to environmental sustainability has shown long-term positive results may help such firms to become more sustainable.

## **Conclusions**

Our study identifies complexity in the owner/managers' responses to relevant environmental issues and offers a nuanced understanding of the environmental attitudes of polluting SMEs in a low-income developing country context. We argue against a black and white categorisation (positive/negative) of SME owner-managers' environmental attitudes as it fails to capture different perspectives on different environmental issues and, sometimes, even on the same issue. Our analysis shows that SME owner/managers hold blended environmental attitudes that are shaped by the socio-economic conditions within which they operate.

Our aim was not to categorise SMEs on the basis of owner/managers' environmental attitudes, rather we intended to unpack how (and under what conditions) the owner/managers of polluting SMEs may formulate, interpret, and judge the environmental issues that are related to their day-to-day business operations, which is critical for effective policymaking in less developed institutional environments (de Oliveira & Jabbour, 2017; Selim, 2011). Policymakers in low-income developing countries often take 'command-and-control' type policy approaches (i.e. forbid X or require Y) that ignore the socio-economic conditions within which SMEs operate (Lund-Thomsen et al., 2014). We have shown in this study that socio-economic conditions such as a lack of cooperation and mutual respect among primary stakeholders, change-resistant organisational culture, overreliance on foreign buyers for environmental compliance, and insufficient training and educational institutions related to a particular manufacturing sector affect the way SME owner/managers perceive relevant environmental issues and can limit their ability to take environmentally friendly initiatives.

In addition, our study makes a valuable contribution to understanding the environmental attitudes of SMEs from the perspective of both owners and non-owner managers (middle managers). By considering the attitudes of both owners and non-owner managers, our findings highlight that the environmental activities of polluting SMEs are not only dependent on their owners' thoughts. The proper implementation of environmental initiatives would also require the support of non-owner managers. Overall, by incorporating the views of non-owner managers alongside those of owners and by unpacking the socio-economic conditions within which SMEs operate, we provide a more comprehensive understanding of polluting SMEs' environmental attitudes, which hopefully could help to design policies and interventions that reflect on the practical needs of polluting SMEs in low-income developing countries.

Although our study has provided fruitful insights into the environmental attitudes of polluting SMEs in a low-income developing country context, we have only concentrated on SMEs from two specific sectors located in two well-defined industrial areas of the country. Hence, the representativeness of the data collected from such a small, concentrated group of participants could be challenged. Further empirical work is needed to expand our findings by focussing on different industrial sectors, and by involving other stakeholders such as environmental policymakers, experts and NGOs as their interaction with polluting firms is a source of good insight. Future studies can also (1) investigate the extent to which the views of

owners and non-owner managers converge or diverge, and (2) explore the differences in opinions between small firm owner/managers and medium-sized firm owner/managers. This will help policymakers to decide whether size-specific policy approaches are needed to promote environmental sustainability within polluting SMEs.

## References

- Agan Y, Acar MF and Borodin A (2013) Drivers of environmental processes and their impact on performance: a study of Turkish SMEs. *Journal of Cleaner Production* 51 (July): 23-33.
- Ahmad, N. H., & Ramayah, T. (2012). Does the Notion of 'Doing Well by Doing Good' Prevail Among Entrepreneurial Ventures in a Developing Nation?. *Journal of Business Ethics*, 106(4), 479-490.
- Azmat, F., & Samaratunge, R. (2009). Responsible entrepreneurship in developing countries: Understanding the realities and complexities. *Journal of Business Ethics*, 90(3), 437-452.
- Battisti, M., & Perry, M. (2011). Walking the talk? Environmental responsibility from the perspective of small-business owners. *Corporate Social Responsibility and Environmental Management*, 18(3), 172-185.
- Black R (2018) *Refugees, environment and development*. London: Routledge.
- Blackman, A. (2006). *Small Firms and the Environment in Developing Countries: "Collective Impacts, Collective Action"*. Washington: Resources for the Future.
- Blackman, A., & Kildegaard, A. (2010). Clean technological change in developing-country industrial clusters: Mexican leather tanning. *Environmental Economics and Policy Studies*, 12(3), 115-132.
- Blaikie, N. (2009). *Designing social research* (2nd ed.). Cambridge: Polity.
- Braun V and Clarke V (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology* 3(2): 77-101.
- Cassells, S., & Lewis, K. (2011). SMEs and environmental responsibility: do actions reflect attitudes? *Corporate Social Responsibility and Environmental Management*, 18(3), 186-199.
- Chan, R. Y., & Ma, K. H. (2016). Environmental orientation of exporting SMEs from an emerging economy: Its antecedents and consequences. *Management international review*, 56(5), 597-632.
- Chassé, S., & Boiral, O. (2017). Legitimizing Corporate (Un) Sustainability: A Case Study of Passive SMEs. *Organization & Environment*, 30(4), 324-345.
- Crick F, Eskander SM, Fankhauser S and Diop M (2018) How do African SMEs respond to climate risks? Evidence from Kenya and Senegal. *World Development* 108 (August): 157-168.
- Crinson I (2007) Nursing practice and organisational change within the NHS: A critical realist methodological approach to the analysis of discursive data. *Methodological Innovations Online* 2(2): 32-43.
- de Oliveira JAP and Jabbour CJC (2017) Environmental Management, Climate Change, CSR, and Governance in Clusters of Small Firms in Developing Countries Toward an Integrated Analytical Framework. *Business and Society* 56(1): 130-151.
- Demuijnck, G., & Ngnodjom, H. (2013). Responsibility and informal CSR in formal Cameroonian SMEs. *Journal of Business Ethics*, 112(4), 653-665.
- Duflo, E., Greenstone, M., Pande, R., & Ryan, N. (2013). Truth-telling by third-party auditors and the response of polluting firms: Experimental evidence from India. *The Quarterly Journal of Economics*, 128(4), 1499-1545.
- Gadenne, D. L., Kennedy, J., & McKeiver, C. (2009). An empirical study of environmental awareness and practices in SMEs. *Journal of Business Ethics*, 84(1), 45-63.
- Hasan MN (2016) Measuring and understanding the engagement of Bangladeshi SMEs with sustainable and socially responsible business practices: an ISO 26000 perspective. *Social Responsibility Journal* 12(3): 584-610.
- Isaak, R. (2002). The making of the ecopreneur. *Greener Management International*, 2002(38), 81-91.
- Kathuria, V. (2007). Informal regulation of pollution in a developing country: Evidence from India. *Ecological Economics*, 63(2), 403-417.
- Kearins, K., Collins, E., & Tregidga, H. (2010). Beyond corporate environmental management to a consideration of nature in visionary small enterprise. *Business & Society*, 49(3), 512-547.



- Kollmuss, A., & Agyeman, J. (2002). Mind the gap: why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, 8(3), 239-260.
- Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: how difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology*, 77(6), 1121-1134.
- Lee, S. Y., & Klassen, R. D. (2008). Drivers and enablers that foster environmental management capabilities in small-and medium-sized suppliers in supply chains. *Production and Operations Management*, 17(6), 573-586.
- Lewis, K. V., Cassells, S., & Roxas, H. (2015). SMEs and the potential for a collaborative path to environmental responsibility. *Business Strategy and the Environment*, 24(8), 750-764.
- Lingelbach, D. C., De La Vina, L., & Asel, P. (2005). *What's distinctive about growth-oriented entrepreneurship in developing countries?* UTSA College of Business Center for Global Entrepreneurship Working Paper, (1).
- Liston-Heyes, C., & Vazquez-Brust, D. (2016). Environmental Protection in Environmentally Reactive Firms: Lessons from Corporate Argentina. *Journal of Business Ethics*, 135(2), 361-379.
- Liston-Heyes, C., Vazquez-Brust, D., & Heyes, A. (2014). An empirical investigation of strategic compliance decisions in Argentinean polluting firms. *Latin American Journal of Management for Sustainable Development*, 1(1), 17-34.
- Liu, X., Liu, B., Shishime, T., Yu, Q., Bi, J., & Fujitsuka, T. (2010). An empirical study on the driving mechanism of proactive corporate environmental management in China. *Journal of Environmental Management*, 91(8), 1707-1717.
- Lund-Thomsen P, Jamali D and Vives A (2014) CSR in SMEs: an analysis of donor-financed management tools. *Social Responsibility Journal* 10(4): 602-619.
- Ministry of Industries (2010) *National Industrial Policy*. Dhaka: Government of the People's Republic of Bangladesh.
- Naffziger, D. W., Almed, N., & Montagno, R. V. (2003). Perceptions of environmental consciousness in US small businesses: An empirical study. *SAM Advanced Management Journal*, 68(2), 23-32.
- O'Neill, K. J., & Gibbs, D. C. (2016). SER SI case study: green entrepreneurs. *Small Enterprise Research*, 23(1), 94-100.
- Painter-Morland M and Dobie K (2009) Ethics and sustainability within SMEs in sub-Saharan Africa: Enabling, constraining and contaminating relationships. *African Journal of Business Ethics* 4(2): 7-19.
- Panayotou T (2016) Economic growth and the environment. In Haenn N, Wilk R. and Harnish A (eds) *The environment in anthropology* (2nd edn.). New York: NYU Press, pp. 140-148.
- Parker, C. M., Redmond, J., & Simpson, M. (2009). A review of interventions to encourage SMEs to make environmental improvements. *Environment and Planning C: Government and Policy*, 27(2), 279-301.
- Pastakia, A. (1998). Grassroots ecopreneurs: change agents for a sustainable society. *Journal of Organizational Change Management*, 11(2), 157-173.
- Petts, J. (1998). Environmental responsiveness, individuals and organizational learning: SME experience. *Journal of Environmental Planning and Management*, 41(6), 711-730.
- Poland BD (2003) Transcription quality. In Holstein JA and Gubrium JE (eds) *Inside interviewing: New lenses, new concerns*. Thousand Oaks, CA: Sage, pp. 290-310.
- Revell, A., Stokes, D., & Chen, H. (2010). Small businesses and the environment: turning over a new leaf? *Business Strategy and the Environment*, 19(5), 273-288.
- Rodgers, C. (2010). Sustainable entrepreneurship in SMEs: a case study analysis. *Corporate Social Responsibility and Environmental Management*, 17(3), 125-132.
- Roxas, B., & Coetzer, A. (2012). Institutional environment, managerial attitudes and environmental sustainability orientation of small firms. *Journal of Business Ethics*, 111(4), 461-476.

- Roxas, B., & Lindsay, V. (2012). Social desirability bias in survey research on sustainable development in small firms: An exploratory analysis of survey mode effect. *Business Strategy and the Environment*, 21(4), 223-235.
- Schaper, M. (2002). Small Firms and Environmental Management Predictors of Green Purchasing in Western Australian Pharmacies. *International Small Business Journal*, 20(3), 235-251.
- Schultz, P. W., Shriver, C., Tabanico, J. J., & Khazian, A. M. (2004). Implicit connections with nature. *Journal of Environmental Psychology*, 24(1), 31-42.
- Selim S (2011) *Ecological Modernisation and Environmental Compliance: The Garments Industry in Bangladesh*. London: Routledge.
- SME Foundation (2013) *SME clusters in Bangladesh*. Dhaka: Small and Medium Enterprise Foundation. Available at: [http://www.smef.org.bd/media/publication/sme\\_cluster\\_bd\\_smef.pdf](http://www.smef.org.bd/media/publication/sme_cluster_bd_smef.pdf) (accessed 17 October 2018).
- Spence, L. J., Jeurissen, R., & Rutherford, R. (2000). Small business and the environment in the UK and the Netherlands: Toward stakeholder cooperation. *Business Ethics Quarterly*, 10(4), 945-965.
- Spence, M., Gherib, J. B. B., & Biwolé, V. O. (2011). Sustainable entrepreneurship: is entrepreneurial will enough? A north-south comparison. *Journal of Business Ethics*, 99(3), 335-367.
- Tevapitak K and Helmsing AB (2019). The interaction between local governments and stakeholders in environmental management: The case of water pollution by SMEs in Thailand. *Journal of Environmental Management* 247 (October): 840-848.
- Tewari, M., & Pillai, P. (2005). Global standards and the dynamics of environmental compliance in India's leather industry. *Oxford Development Studies*, 33(2), 245-267.
- Tilley, F. (1999). The gap between the environmental attitudes and the environmental behaviour of small firms. *Business Strategy and the Environment*, 8(4), 238-248.
- Tilley, F. (2000). Small firm environmental ethics: how deep do they go? *Business Ethics: A European Review*, 9(1), 31-41.
- Tounés, A., Tornikoski, E. T., & Gribaa, F. (2019). The Formation of Environmentally Friendly Intentions of SME Owner-Managers in an Emerging Country: The Case of Tunisian's Textile-Clothing Industry. *Organization & Environment*, 32(4), 528-554.
- Tran, A. N., & Jeppesen, S. (2016). SMEs in their own right: The views of managers and workers in Vietnamese textiles, garment, and footwear Companies. *Journal of Business Ethics*, 137(3), 589-608.
- Uhlaner, L. M., Berent-Braun, M. M., Jeurissen, R. J., & de Wit, G. (2012). Beyond size: Predicting engagement in environmental management practices of Dutch SMEs. *Journal of Business Ethics*, 109(4), 411-429.
- Uygur, S. (2009). The Islamic work ethic and the emergence of Turkish SME owner-managers. *Journal of Business Ethics*, 88(1), 211-225.
- Vazquez-Brust, D. A., & Liston-Heyes, C. (2010). Environmental management intentions: An empirical investigation of Argentina's polluting firms. *Journal of Environmental Management*, 91(5), 1111-1122.
- Vazquez-Brust D, Liston-Heyes C, Plaza-Ubeda J and Burgos-Jiménez J (2010) Stakeholders pressures and strategic prioritisation: An empirical analysis of environmental responses in Argentinean firms. *Journal of Business Ethics* 91(2), 171-192.
- Williamson, D., Lynch-Wood, G., & Ramsay, J. (2006). Drivers of environmental behaviour in manufacturing SMEs and the implications for CSR. *Journal of Business Ethics*, 67(3), 317-330.
- Wu, J. (2009). Environmental compliance: the good, the bad, and the super green. *Journal of Environmental Management*, 90(11), 3363-3381.
- Zeng, S., Meng, X., Zeng, R., Tam, C. M., Tam, V. W., & Jin, T. (2011). How environmental management driving forces affect environmental and economic performance of SMEs: a study in the Northern China district. *Journal of Cleaner Production*, 19(13), 1426-1437.

referred to  
collectively as  
owner/managers

**Table 1.** Interview respondents.

Roles	Labels
Owners – Tannery	OT1,.....,OT14
Owners – Dyeing Factory	OD1,.....,OD6
Non-Owner Managers – Tannery	NOT1,.....,NOT4
Non-Owner Managers – Dyeing Factory	NOD1,.....,NOD10

**Table 2.** Environmentally relevant issues addressed in this study

Issue	Description	Illustrative references
Technology	The use of technology (e.g., effluent treatment plants - ETPs) to reduce the impact of industrial waste on surrounding rivers, canals, and waterways	Hoque and Clarke, 2013; Ullah et al., 2004; Ministry of Industries, 2010; Selim, 2011

Sourcing	The sourcing of environmentally friendly raw materials	Lahdesmaki, 2005; Uhlaner et al., 2012
Labourers	Consideration of environmental health hazards to labourers, especially those exposed to harmful chemicals on a regular basis	Renton, 2012
Communities	Concern for communities surrounded by polluting firms	Frijns, 2003

**Table 3.** Owner/manager environmental attitudes

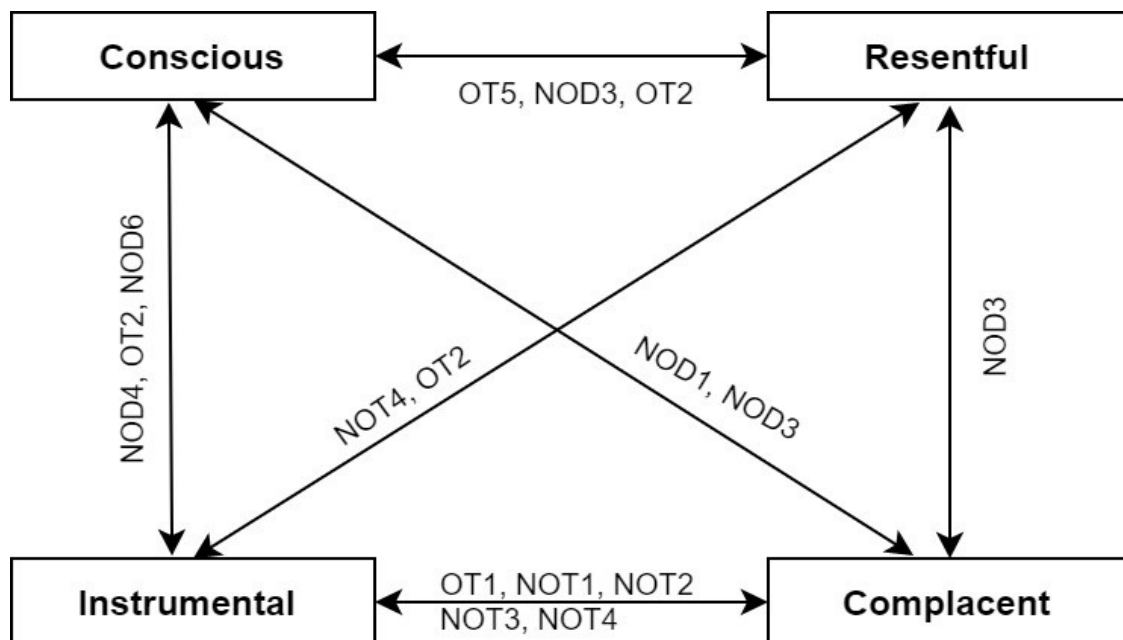
<b>Environmental attitudes</b>	<b>Descriptions</b>
Conscious	The owner/managers possess a good technical and scientific knowledge of the negative environmental impacts of their business operations. They are also well familiar with various environmentally friendly technologies.
Instrumental	The owner/managers consider environmental responsibility as something only required by regulation and providing no immediate benefits. Changes in business operations are perused only provided they maximise profit and provide competitive advantage.
Resentful	The owner/managers have a complete distrust of the responsible authorities and/or the regulatory environment. They are highly cynical about the environmental commitment of other stakeholders.
Complacent	The owner/managers are satisfied with the current environmental performance of their businesses and firmly believe that no further improvements are required from their side. They think that, even if they are part of the problem, the solution must come from elsewhere.

**Table 4.** Key differentiating dimensions of the environmental attitudes

Environmental attitudes	Key differentiating dimensions		
	General interest in environmental issues	Commitment to act in environmentally responsible ways	Key stakeholder focus
<b>Conscious</b>	High (in most cases)  I'm a chemical engineer, [you can] ask me anything about the environment.	Ad-hoc commitment (depends on resource availability)  The environmental impact of dyeing is huge, but [available] technology is unaffordable.	Labourers, suppliers, nearby community  Many [labourers] are suffering from skin cancer.
<b>Instrumental</b>	Moderate at best  We're a certified company...we have all necessary certifications.	Ad-hoc commitment  We installed this biological ETP as per buyers' recommendation.	Buyers, regulators  ...our documents are up-to-date, so we won't fail in [the] buyers' inspection.
	Moderate at best	Situational commitment—more focussed on cost-benefit analysis	Government, suppliers, labourers

<b>Resentful</b>	I'm getting sick of talking about these [environmental] issues.	I'll do it [install an ETP] if my business can absorb the cost.	[The] suppliers know nothing about environmental pollution.
<b>Complacent</b>	Low  Our factory is very neat and clean already, there's nothing to discuss.	No discernible commitment  The environment is much better now in Hazaribagh.	Labourers, buyers  My labourers never complain about any issues.

**Figure 1.** The overlapping environmental attitudes displayed by the owner/managers<sup>7</sup>



## **Appendix A. Interview Schedule/Guide.**

The empirical data were collected from the owner/managers of the selected factories. A basic outline was followed for all the interviews, although the interview questions, approach and tone were modified slightly based upon the sector (textile dyeing or leather tanning) in which the factories studied operated.

### **The interview**

#### **a. General information about the factory/participant**

Here, information should be collected on: date of establishment, nature of ownership, production capacity, focus market/s, main product/s, number and types of labourers.

Information should also be collected on: the participant's role in the factory, reasons for joining/starting the factory, length of stay in Hazaribagh/Gazipur (depending on where the factory is located), type of employment and nature of work done (emphasis on this point if the interviewed person is NOT the owner).

#### **b. Questions on the environmentally relevant issues**

- What is your impression about the general environmental situation in Hazaribagh/Gazipur today?

- Do you think your business activities have an impact on society and the environment? (if the answer is ‘yes’, then ask the participant to explain how, if it is ‘no’, then move to the next question/topic)
- What is your general impression on the following issues?
  - (a) using technology (e.g., ETPs) to treat chemical waste;
  - (b) sourcing raw materials responsibly (i.e., buying raw materials produced using environmentally friendly technology);
  - (c) environmental health hazards to the labourers, especially those who are exposed to harmful chemicals on a regular basis;
  - (d) concerns for nearby communities.
 (Note—special attention must be given to the instant expressions/reactions of the participants. Also, not all of these issues may be relevant for all the participants; therefore, only the relevant issues should be mentioned, where applicable).
- Prompt for additional information (applicable to most questions):
  - What do you mean by that?
  - Can you elaborate on that or explain it in a little more detail?
  - Can you give some examples?
  - Can you say more about this?
  - Please explain/discuss.

## Appendix B. Analysis scheme.

Step 1: Phenomenology	Step 2: Theorisation into categories	Step 3: Retroductive inference
Raw material suppliers charge excessive prices	‘Resentful’ attitudes driven by alleged non-supportive stakeholder behaviours	Highlights the lack of trust and mutual respect between different stakeholders (e.g., owner/managers, raw material suppliers)
Factory owners rarely consult the non-owner managers on environmental issues		
The buyers are applying a lot of pressure lately, especially after the Rana Plaza tragedy	‘Instrumental’ attitudes driven by stakeholder pressure	Highlights the owner/managers’ strivings to meet supply chain demand
All the chemicals must be of high quality, otherwise orders will be cancelled		



Dyeing executives (i.e. non-owner managers) cannot do anything, the decision must come from the owners	‘Complacent’ attitudes driven respectively by alleged non-supportive stakeholder behaviours and lack of objection from marginal stakeholders	Highlights (1) a communication gap between the owners and non-owner managers, and (2) the owner/managers’ tendency to view the labourers as a dispensable and replaceable resource (because, ‘no complaints’ is mostly used as a proxy to justify current behaviours)
Tannery labourers never complain about anything		

<sup>1</sup> Throughout this paper, we used the term ‘owner/managers’ to refer to both owners who manage their businesses and non-owner managers (i.e., middle managers). We used the term ‘non-owner manager/s’ when referring to only middle managers.

<sup>2</sup> Refers to those owners who also manage their businesses.

<sup>3</sup> Wet blue is leather that has been tanned using chromium. Several harmful chemicals (e.g. Chromium Sulphate, Sodium Chloride) are used to convert raw hides into wet blues.

<sup>4</sup> Globally recognised certification systems for raw, semi-finished and finished textile products.

<sup>5</sup> The Bangladesh Standards and Testing Institution (BSTI) is a Government agency under the Ministry of Industries constituted for the purpose of controlling standards of service and quality of goods.

<sup>6</sup> This is also called the ‘Dunning-Kruger effect’.

<sup>7</sup> The arrows are used to illustrate the degree of overlap between the environmental attitudes.