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In Search of Environmental Sustainability at the Base of the Pyramid

Enabling Human Nature at its Core

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- Stakeholder engagement
- Base of the pyramid
- Bottom of the pyramid
- Poverty
- Environment
- Consumption
- Collective action
- Competitive imagination

This paper proposes a revision to Hart and Sharma's 2004 model for corporate engagement with the base of the pyramid (BoP) by making the BoP community and the natural environment, not the firm, the central focus for engagement. The revised model proposes that core stakeholders must include the BoP community, the poor, weak, and illiterate, as they can benefit most from the community collective action model presented herein to address sustainability in the natural environment. These are the core stakeholders rather than fringe stakeholders, as indicated in the Hart and Sharma model. Our model recognizes the legitimacy of the firm as an enabler that possesses the power to help core stakeholders address the causes of environmental degradation that act as barriers to poverty alleviation and natural resource access.

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IT IS WITH GREAT RESPECT and admiration that we offer variations and extensions to the late C.K. Prahalad's (2005) Bottom of the Pyramid work and subsequent Base of the Pyramid work by Hart (2005) and others in addressing the role of corporations to eradicate poverty through profits. Given the crushing poverty in India, engrained corruption, and an unwieldy bureaucracy, Prahalad's vision offers a whiff of hope in place of despair. In this paper, we offer a conceptual process that is less firm-centric than Hart and Sharma's (2004) model and more oriented toward collective action on multiple levels. We believe that while poverty is similar in its lack of access to food, water, and shelter, those who are poor are not monolithic and their progression towards a more sustainable, healthful future is likely to be non-linear and unique.

As Kandachar and Halme (2007) note, there has been very little systematic evaluation of the environmental impacts of base of the pyramid (BoP) initiatives. They note, however, that on a general level, poverty and environmental degradation are in many ways intertwined in that "the poor suffer first from degradation of ecosystems, and have little means to protect themselves from the negative effects of climate change" (Kandachar & Halme, 2007, p. 3).

Our purpose in this paper is to provide models and to structure a process in which poverty and environmental degradation can become gradually disentangled. In an attempt to integrate BoP with the environment, the structure we provide in this paper draws on research from business (Hart & Sharma, 2004; Simanis & Hart, 2009; London, 2010), economics (Ostrom, 1990), ecology (Adger, 2000), community planning (Dasgupta & Beard, 2007), and international development (Newell & Frynas, 2007) in order to balance biases and agendas pertinent to various schools of thought.

The outline of this paper is as follows. First, we discuss problems related to the environment and consumption within the base of the pyramid. Next, we discuss the use of informal networks and collective action within the BoP as a means to give residents increased control over the environmental commons. We then introduce Hart and Sharma's (2004) model for competitive imagination as one approach for corporate engagement within the BoP. Finally, we propose a revision to Hart and Sharma's (2004) model that is built on informal networks and collective action as a possible solution for residents to self-manage the problems of the environment and consumption within the BoP, thus disentangling poverty and environmental degradation.

BoP, environment and consumption

Poverty is generally defined in terms of income and consumption. Base of the pyramid populations are defined as those individuals living on less than US\$1–2 per day.¹ It has been argued that the current BoP model is built on consumption.

¹ Some authors further segment the BoP (e.g. Rangan *et al.*, 2011); however, for the purpose of this article, we use the broader definition of \$1–2 per day proposed by Prahalad (2005).

Indeed, Prahalad's (2005) very thesis asked businesses to stop thinking of the poor as victims, but instead to see them as entrepreneurs and consumers: 4 billion potential consumers representing a \$5 trillion market (Hammond *et al.*, 2007). Base of the pyramid strategies are a market-based approach toward poverty alleviation, thus requiring increased movement of capital and goods within the market economy. It becomes clear that the primary beneficiary of a market-based approach designed to operate within the boundaries of the formal cash economy is the corporation, although the premise is to increase the flow of goods through the formal economy and a consequence will be a reduction in poverty.

We question whether growth in the current patterns of consumption is the best approach toward poverty reduction. Nearly 20 years ago, the UN noted that we are on a "runaway consumption train" which is straining the environment as never before (United Nations Development Programme, 1998).

Today's consumption is undermining the environmental resource base. It is exacerbating inequalities. And the dynamics of the consumption–poverty–inequality–environment nexus are accelerating. If the trends continue without change—not redistributing from high-income to low-income consumers, not shifting from polluting to cleaner goods and production technologies, not promoting goods that empower poor producers, not shifting priority from consumption for conspicuous display to meeting basic needs—today's problems of consumption and human development will worsen (UNDP, 1998, p. 1).

It has also been noted that environmental damage caused by current consumption patterns most severely affects the poor (UNDP, 1998). Emerging economies are affected by overfishing, water shortages, and deforestation, all a direct consequence of affluent consumption patterns. Furthermore, individuals in emerging economies are exposed to polluted rivers and to toxic fumes from fuel wood, dung, and leaded petrol (UNDP, 1998) and engage in ecologically harmful consumption behaviours (Holden, 1996; Varadarajan, 2014). The entanglement of poverty and environmental degradation is on a downward spiral. Indeed the push for sustainable consumption is viewed as one part of the solution to this dilemma (Herndorf & Tuncer, 2010).

In a recent review of the past decade of base of the pyramid literature, it was noted that the environment received the least attention (among the three spheres of sustainability) in research and publications (Kolk *et al.*, 2013). That is, only 16% of the publications in the review discussed the BoP with regard to environmental impacts and those publications focused almost exclusively on waste generation. This is surprising given the anticipated environmental impact of adding 4 billion more consumers to the global economy (Kandachar & Halme, 2007, 2008; Wijen, 2008) and the consistent call throughout the literature to scale successful BoP ventures. Within the BoP literature, it appears there are difficult trade-offs between profitability, social impact, and the environment (Kolk *et al.*, 2013).

Collective action

Collective action could be the first step in addressing environmental sustainability within the BoP. Mason and Beard (2008) observe that international development planning and poverty alleviation strategies have moved beyond centralized, top-down approaches and have progressed toward decentralized, community-based approaches that incorporate actors from the community, government, non-governmental agencies, and business. Community-driven development is a bottom-up approach to community development which, in contrast to historical top-down approaches, is designed to give increased control to communities (Dasgupta & Beard, 2007).

Successful collective action can be predicted by past success in collective efforts, strong social networks, and trust (Chesbrough *et al.*, 2006, p. 53). Collective action at the community level is quite diverse and the results can vary greatly based on cultural and sociopolitical contexts, such as the uniqueness and non-linearity of the BoP community (Dasgupta & Beard, 2007). A distinctive advantage of broad-based participation and democratic governance is that it creates opportunities and political space necessary to redress elite capture and other problems common to community-driven development (Dasgupta & Beard, 2007).

Similarly, in Ostrom's (1990) seminal work, *Governing the Commons: The Evolution of Institutions for Collective Action*, the point is made that institutional change may not be possible because of external constraints. Institutional rules and structures may make it impossible to address the commons dilemma. Here again, the uniqueness and non-linearity of the BoP–natural environment ecosystem comes to the fore. Ostrom (1990) explains how collective action by BoP residents will give them greater control in self-managing the environmental commons and addressing the problems of environmental degradation. To do so requires coping with free riding, solving commitment problems, and monitoring individual compliance with sets of rules.

Newell and Frynas (2007) draw on the work of Ostrom (1990) in recognizing the need to create non-hierarchical ecosystems which recognize the power asymmetry of the natural environment vis-à-vis humanity. Their model supports a self-determination of communities in which exchange occurs within unique ecosystems with sustainability environmentally, socially, and economically self-contained without the expectations for growth, scale and increased profits. Wijen (2008) recognizes the limitations on collective action imposed by institutional structures and rules which Ostrom (1990) references. Wijen (2008) argues that the struggle for survival causes the environment to be prioritized less highly than direct material needs and suggests that in terms of non-market governance, government regulation, industry self-regulation and civic action at the international or supranational level are more feasible than at national government level. Aside from the need for a more responsive regulatory regime as suggested by Wijen (2008), Schuster and Holtbrugge (2014)

found empirical support for civil society partners helping firms meet customer needs in BoP markets. Thus, this line of inquiry supports the view that collective action has the potential to be a successful path toward self-governance of environmental issues within BoP communities (Dasgupta & Beard, 2007; Newell & Frynas, 2007; Ostrom, 1990; Wijen, 2008).

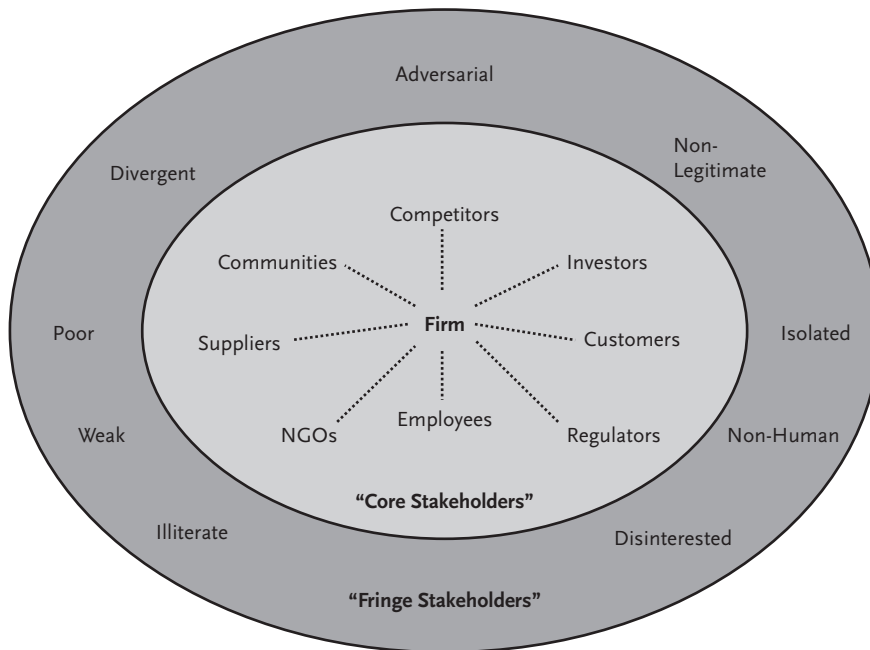
Competitive imagination

In 2004, Hart and Sharma brought attention to the growing influence that fringe stakeholders can have on corporate decisions and activities. This influence stems from globalization and the rapid dissemination of information through the Internet. Hart and Sharma (2004) suggested that corporations extend beyond known or powerful stakeholders and find ways to engage stakeholders on the periphery or fringe. It was reasoned that this engagement could help "...continuously acquire and combine knowledge from fringe stakeholders with radically differing views in order to avoid stakeholder swarms and build the competitive imagination that will be necessary for future business success" (Hart & Sharma, 2004, p. 8). Hart and Sharma (2004) believed the future of competitive advantage rested on a firm's "...capacity for exploration, disruptive innovation, creative destruction, and corporate imagination" (p. 9). Taken together, they believed this competitive imagination could be realized through the engagement of fringe stakeholders.

In Figure 1, Hart and Sharma (2004) identify the core stakeholders traditionally engaged through strategic management. These traditional core stakeholders include competitors, investors, customers, regulators, employees, communities, suppliers, and non-governmental organizations (NGOs). These stakeholder groups are often most salient and powerful within the firm's operating environment. By contrast, fringe stakeholders are generally adversarial, non-legitimate, isolated, non-human, disinterested, illiterate, weak, poor, and/or divergent. Yet, it is argued, the fringe stakeholders "...may hold knowledge and perspectives that are key both to anticipating potential future sources of problems and to identifying innovative opportunities and business models for the future" (Hart & Sharma, 2004, p. 10).

Figure 1 Engaging fringe stakeholders for competitive imagination

Source: Enterprise for a Sustainable World



The model proposed by Hart and Sharma (2004) is being used at Enterprise for a Sustainable World (ESW) as the foundation for the Competitive Imagination Laboratory.² The model is applied with businesses to identify and engage fringe stakeholders in an effort to create new business concepts. The rationale is that repeatedly accessing the same core stakeholders does not lead to breakthrough competitive imagination and sustainable competitive advantage, but reaching out to the fringe will help the firm identify radical solutions.

Hart and Sharma's (2004) model offers much to compliment in its effort to direct market resources to the crushing problems of poverty. The competitive imagination model (Hart & Sharma, 2004) is used alongside the Sustainable Value Laboratory to help firms build capacity in working in base of the pyramid markets.³ Additionally, these capacity building tools are complemented by the Base of the Pyramid Protocol (Enterprise for a Sustainable World, 2006), which aids the firm in developing a new business process that enables corporations to partner with BoP communities. In combination, concepts in these models, such as co-creation and engaging in deep dialogue with stakeholders, offer significant potential for launching new businesses and generating mutual value. They could be particularly useful in assisting executives in strategizing about involvement on broader social horizons.

² <http://www.e4sw.org/services.html>

³ <http://www.e4sw.org/services.html>

An alternative: engaging with the BoP–natural environment

The model of Hart and Sharma (2004) in Figure 1 is decidedly firm-centric. This is true of the majority of base of the pyramid research, as:

...debate over the role of MNCs continues to command center stage in BOP research. The durability of this debate is understandable, given the genesis of the BOP narrative as a bold set of assertions about the “fortune at the bottom of the pyramid” that would result from principled self-interest on the part of the MNCs... Our theories about how business can help address the needs of the poor have to date been presented largely as stories about what the businesses have done. The poor themselves have largely appeared in our drama like movie extras, in the background, while our stories focus on the central business characters (Patton & Halme, 2007, p. 584).

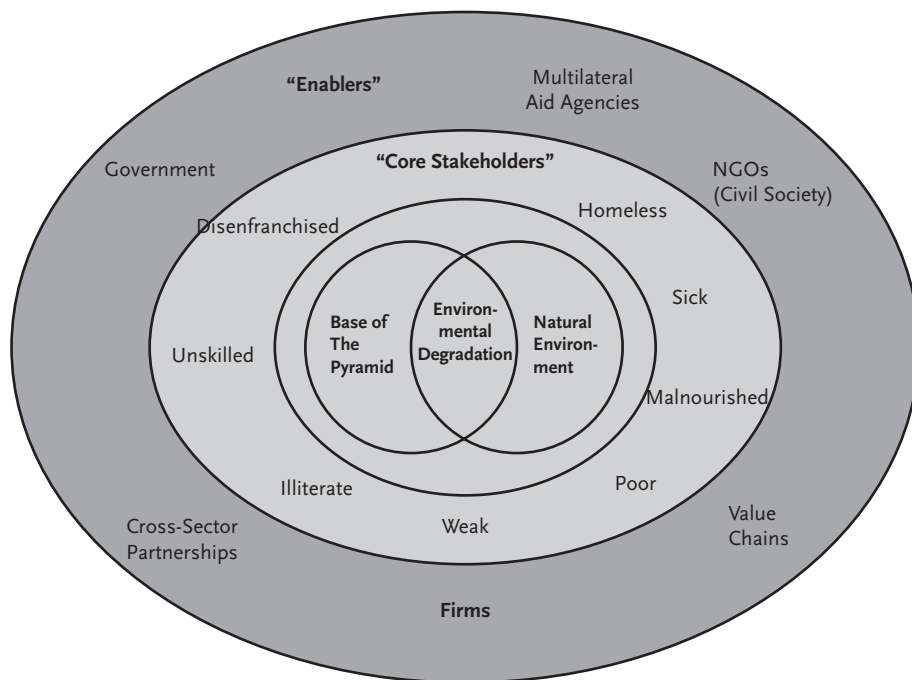
Our concern regarding the firm-centric approach of Hart and Sharma (2004) in Figure 1 involves the inherent conflict between corporate shareholder demands for short-term performance and the unique, non-linear nature of BoP markets. London (2010) notes that BoP markets do not necessarily exist in any organized form and Boguslaw and Boyle (2008) recognize that the poor need institutional structures and investments beyond the normal consumption/production cycle which lies at the heart of corporate performance expectations. As appealing as Simanis and Hart’s (2009) vision of business model intimacy and “cocreating a new community from the ground up, with the company embedded in its foundation” (p. 79) sounds, Wall Street’s impatience with turnarounds at Yahoo and other struggling corporate entities causes legitimate doubts about the viable scope of this model. In this era of globalization, corporations typically want to model markets predictably in order to achieve scale quickly, lower costs and grow profits. Culture uniqueness can be done, as long as it is easily replicable and yields public relations value. “One-offs” are expensive and generally do not lead to scale. From a corporate perspective, the market allure of the BoP is its large, relatively untapped market offering the opportunity to develop purchasing power. This is understandable. Many consumer product companies are flush with cash on their balance sheets and looking for new markets to improve tepid top line growth. Where scale can be achieved, however, there remains the possible problem of greater environmental degradation as a result of scaling up to meet corporate expectations. For example, Schor (2010) notes that extensive growth means drawing in new factors of production and involves the drawdown of capital from the natural world to the market economy.

With the pressures for growth due to financialization, as well as the unique, non-linear nature of BoP markets, we are concerned that environmental and social performance will recede in importance should a firm-centric model become dominant. London (2010), for example, notes that while most of the BoP ventures have metrics to evaluate their economic performance, “many fail to invest in a systematic approach to continually improve their poverty alleviation impacts—a surprising lapse, given the importance of maintaining an ongoing dialogue with those they seek to serve” (p. 38). Moreover, Hahn (2009)

emphasizes that BoP based on the Western model of living is ecologically not acceptable, while Schrader *et al.* (2012) conclude that generally, existing products, strategies and business models are unsuitable for low-income markets. In particular, the firm in Figure 1 appears to focus first on traditional stakeholders such as the suppliers, competitors and customers one finds in a traditional task environment strategy. Stakeholders, such as the non-human, illiterate, and poor are identified as fringe stakeholders. This raises the question of when and how will fringe stakeholders connect with the firm? Many companies struggle to identify, communicate, and strategize with their core stakeholders on a regular basis. In the BoP, given its lack of market structure, what is the likelihood that the firm will form deep relationships with fringe stakeholders? Instead, we are concerned that silos of consumption and production will occur and, redolent of the colonization era, leave the BoP in worse shape ecologically, with little social or economic benefit going to those on “the fringe”.

We propose a revision to Hart and Sharma’s (2004) figure depicting competitive imagination and fringe stakeholder engagement within the base of the pyramid because of its heavy reliance on the firm. This is not an ideological response but rather a recognition that the firm-centric nature of Hart and Sharma’s (2004) model suggests that the firm will be the initiator of BoP relationships and will be the implementer of strategies leading to profits from poverty.

Figure 2 In search of environmental sustainability: engaging human nature at its core



In the proposed revision, the alternative model we present in Figure 2 does not delegitimize the firm or its involvement in the BoP. Instead, an ecosystem

involving the base of the pyramid and the natural environment (including non-humans) serves as the central focus. Figure 1 recognizes that environmental degradation is a fundamental challenge facing the ecosystem and must be addressed collectively as an urgent priority; thus, the BoP model relies on the integration of environmental sustainability. In BoP models, government, multilateral aid organizations, and NGOs must serve as enablers of this environmental protection effort, but following Ostrom (1990), it is proposed that the primary actors, or core stakeholders, must come from the community through collective action. These core stakeholders include the homeless, sick, malnourished, poor, weak, illiterate, unskilled, disenfranchised, and the like. The focus of this collective action must involve effective, appropriate governance to ensure a fair, orderly, efficient method of allocating resource units. Taylor (1987) notes that local appropriators have little motivation to provide a system of resources (potable water, access to shelter, food distribution, and health care) without a governance system with the necessary scale and scope to address the needs of a particular ecosystem. Ecosystem management in this context involves protecting ecological integrity while also providing the necessary goods and services humans need (Grumbine, 1994). Since ecological and social resilience may be linked through the dependence of communities and their economic activities on the ecosystem (Adger, 2000), environmental degradation must be addressed as a priority and be recognized as normative and inviolable.⁴

Following Taylor (1987), a regulatory regime must be developed on multiple levels with a governance system involving incentives and motivators unique to the community but linked to supranational cross-sector efforts. The “enablers” in Figure 2 possess the power and legitimacy to address the causes of polluted air, water, and land and the resulting problems of forced urbanization in developing countries. In particular, Schuster and Holtbrugge (2014) note that civil society organizations are able to provide support in developing and mobilizing resources in BoP markets as “they have already gained experience, built trust and established networks to customers which allow the delivery of products and services to them” (p. 193). The role of enablers in connecting with the core stakeholders in Figure 2 is particularly important given “severe institutional gaps such as red tape, a lack of well-developed property rights, faulty regulatory discipline and non-transparent legal systems, which turn business activities into a game of chance” (Wright *et al.*, 2005). Moreover, relationships with NGOs may provide business firms with access to skills, competences, and capabilities not available in their own organization or through business alliances (Oetzel and Doh, 2009).

We should not expect environmental degradation in the BoP to be ameliorated by formal markets. Wijen (2008) cautions about the contribution of corporate innovations to effective environmental governance, noting that, in general, the market falls short when it comes to pollution prevention and abatement. Overall, the development of formal networks by firms as part of market

⁴ Think, for example: how valuable are individualized packets of hair shampoo in the absence of potable water?

development is less of a priority than addressing the public resource gaps contributing to environmental degradation. Hence, firms act as enablers in Figure 2 rather than as a hub connecting with priority stakeholders first, and fringe stakeholders in the distance.

Depicting the illiterate and others as fringe stakeholders may be the greatest shortcoming of Figure 1. Newell and Frynas (2007) posit that the strengths of the subsistence marketplace revolve around strong, connected relationships as a necessity for survival. Those living at a subsistence level must be resourceful in building and maintaining informal networks given the uncertainties of daily life and lack of regular income. Consistent with recognizing the importance of informal BoP networks at the community level, Dasgupta and Beard (2007) recognize three propositions in the literature: decentralization of development aid, decision making at the local level, and collective action. Ostrom (1990) recognizes the need for non-hierarchical systems based on collective action and the ability of individuals to create social capital and self-govern. In particular, Ostrom's theory focuses on common pool resources (CPR), which contributes to understanding how to organize collective action related to providing local public goods.

Both Dasgupta and Beard (2007) and Ostrom (1990) suggest the importance of community level efforts to address poverty and related natural resource availability. These approaches are not without problems, such as corruption, elite capture of non-elites, and lack of support from government. We recognize the vital role of enabling organizations to support collective efforts with all of their diversity and uniqueness. In the final analysis, we support the urgent need, as illustrated in Figure 2, to restore and protect the resilience of social and ecological ecosystems without which economic wellbeing is improbable. Wijen (2008) correctly identifies the important role of enablers such as supranational organizations in addressing the environmental degradation in Figure 2. The stakeholders in the informal economy, including the natural environment, lack a voice in receiving crucial access to natural resources and public goods. As is the case currently, economic growth in the BoP will be constrained by the lack of such resources. Enablers creating the infrastructure for collective action to occur in the BoP–natural environment ecosystem is the best scenario for environmental, social, and economic performance.

Limitations

The most obvious limitation of this paper is that it is a conceptual model and not empirically tested. We have discussed case studies from Dasgupta and Beard (2007) and Mason and Beard (2008) involving community-level collective action, which emphasize the uniqueness and non-linearity of BoP initiatives. The variability in these cases suggests that while this paper represents a conceptual alternative to existing models, much more research needs to be done in order to better understand the variables involved in the BoP–natural

environment relationship. Because the model presented in Figure 2 is static, the multidirectional relationships among stakeholders cannot be discussed in detail. We would expect significant complexity in stakeholder relationships, both in terms of the sequence of involvement among enablers and the core stakeholders and the unique networks linking groups of stakeholders.

There remain questions about the role of business in poverty reduction (Patton & Halme, 2007). In practice, the grinding nature of poverty and the very fact that business is not about poverty makes confronting the BoP comprehensively a daunting and discomfoting task. Yet, the urgency of sustainability and climate change demand that we better understand the challenges facing the 4 billion people comprising the BoP.

Moreover, in recent decades, the emphasis on the role of government in supporting development through a centralized strategy has shifted to a greater focus on local efforts and civil society. This paradigm shift requires a much more detailed examination, as Mueller (2006) notes:

Notwithstanding the many issues and questions that have arisen in the application of these new paradigms, there is still an almost unquestioned, if not religious, faith in their ability to contribute more effectively to rural development, environmental sustainability, and poverty alleviation than past approaches. Like the hard sciences, donors and academics tend to cling to their paradigms. Unlike them, paradigms tend to shift when they are unfashionable or politically out of tune rather than when they are wrong (p. 1).

This paper presents an alternative model in order to compare and contrast with a model put forth by very reputable academics in this field. However, our model should be inspected and questioned as well. We encourage more case studies and empirical research to better understand the relationship between the BoP and the natural environment.

Conclusion

The majority of the BoP debate has focused on the economic implications and the fact that we do not know much about the interconnected social, ecological, and economical sustainability implications of the BoP business approach (Kandachar & Halme, 2007, 2008). Firms need to move beyond their core stakeholders and engage others who can impact the firm (Hart & Sharma, 2004; Henriques & Sharma, 2005). In this paper, we propose shifting the debate to focus on the linkage between the BoP and the natural environment in recognition of the escalating environmental degradation afflicting the ecosystems occupied by the BoP and natural environment.

If firms want to conduct business in the BoP, then it stands to reason that they will want to reduce the risk and uncertainty about such ventures. We believe that firms serious about conducting business in the BoP will decide ultimately to proceed incrementally because of the depth of problems in the BoP–natural environment ecosystem. They will understand the need for a network of

enablers to engage at multiple levels. It is very hard work to disentangle the causes and consequences of poverty and environmental degradation. Unfortunately, a larger risk and uncertainty is now present: we do not know at what point the BoP–natural environment ecosystem is no longer resilient and what the consequences of the lack of resilience will be. It is impractical for firms to view themselves as the focal point of such an effort, given the risk and uncertainty involved. Shareholders will not understand.

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